CFD-S45L/S47L

SERVICE MANUAL

AEP Model
UK Model

Ver 1.0 1998. 09

Photo: CFD-S47L

CD Section	Model Name Using Similar Mechanism	NEW
	CD Loading Mechanism Type	FLM-S47-149
	CD Mechanism Type	KSM-213CCP
	Optical Pick-up Name	KSS-213C
TC Section	Model Name Using Similar Mechanism	CFD-V10
	Tape Transport Mechanism Type	MF-V10-117

SPECIFICATIONS

CD player section

System
Compact disc digital audio system
Laser diode properties
Material: GaAlAs
Wave length: 780 nm
Emission duration: Continuous
Laser output: Less than 44.6 µW
(This output is the value measured at a distance of about 200 mm from the objective lens surface on the optical pick-up block with 7 mm aperture.)
Spindle speed
200 r/min (rpm) to 500 r/min (rpm) (CLV)
Number of channels
2
Frequency response
20 - 20,000 Hz +1/–2 dB
Wow and flutter
Below measurable limit

Radio section

Frequency range

FM	87.6 - 107 MHz
MW	531 - 1,602 kHz
LW	153 - 279 kHz

IF
FM: 10.7 MHz
MW/LW: 450 kHz
Aerials
FM: Telescopic aerial
MW/LW: Built-in ferrite bar aerial

Cassette-corder section

Recording system
4-track 2 channel stereo
Fast winding time
Approx. 150 sec. with Sony cassette C-60
Frequency response
TYPE I (normal): 80 - 10,000 Hz

General

Speaker
Full range: 8 cm (3 1/4 in.) dia.,
6 ohms, cone type (2)
Outputs
Headphones jack (stereo minijack)
For 16 - 68 ohms impedance headphones
Maximum power output
4.5 W + 4.5 W
Power requirements
For CD radio cassette-corder:
230 V AC, 50 Hz
9 V DC, 6 R20 (size D) batteries
For memory back-up:
6 V DC, 4 R6 (size AA) batteries
For remote control (CFD-S47L only):
3 V DC, 2 R6 (size AA) batteries
Power consumption
AC 25 W

– Continued on next page –

CD RADIO CASSETTE-CORDER

MICROFILM

SONY®

Battery life

For CD radio cassette-corder:

FM recording
Sony R20P: approx. 3.5 h
Sony alkaline LR20: approx. 10 h
Tape playback
Sony R20P: approx. 1.5 h
Sony alkaline LR20: approx. 5 h
CD playback
Sony R20P: approx. 1 h
Sony alkaline LR20: approx. 4 h

Dimensions

Approx. 420 × 177 × 281 mm (w/h/d)
(16 5/8 × 7 × 11 1/8 inches) (incl. projecting parts)

Mass

Approx. 5.1 kg (11 lb. 4 oz.) (incl. batteries)

Supplied accessories

AC power cord (1)
Remote control (RMT-CS47A) (1)
(CFD-S47L only)

Design and specifications are subject to change without notice.

This Compact Disc player is classified as a CLASS 1 LASER product.
The CLASS 1 LASER PRODUCT label is located on the bottom exterior.

CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

Notes on Chip Component Replacement

- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic breakdown because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic breakdown and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

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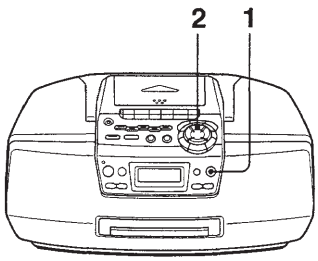
SECTION 1
GENERAL

This section is extracted from instruction manual.

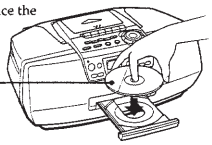
Playing a CD



Connect the supplied AC power cord (see page 25).

1

Press ⏏ CD OPEN/CLOSE (direct power-on) and place the CD on the CD tray.

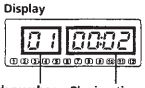


2

Press ▶II.

The CD tray closes and the player plays all the tracks once.

Display

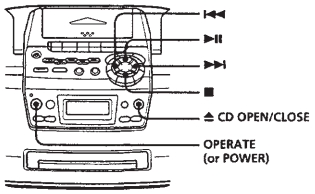


Track number Playing time

Tip

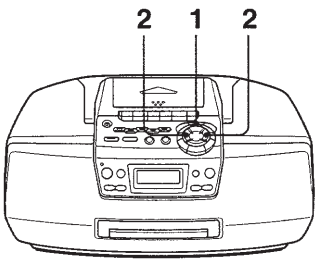
Next time you want to listen to a CD, just press ▶II. The player turns on automatically and starts playing the CD.

Use these buttons for additional operations



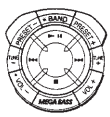
To	Press
adjust the volume	VOL +, –
stop playback	■
pause playback	▶II (II on the remote, CFD-S47/S47L only) Press the button again to resume play after pause.
go to the next track	⏭
go back to the previous track	⏮
remove the CD	⏏ CD OPEN/CLOSE
turn on/off the player	OPERATE (or POWER, see page 2)

Listening to the radio



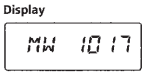
Connect the supplied AC power cord (see page 25).

1



Press BAND until the band you want appears in the display (direct power-on).

Display



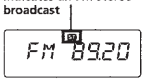
2

Hold down TUNE +/▶▶I or TUNE –/I◀◀ (TUNE + or – on the remote, CFD-S47/S47L only) until the frequency digits begin to change in the display.

The player automatically scans the radio frequencies and stops when it finds a clear station.

If you can't tune in a station, press the button repeatedly to change the frequency step by step.

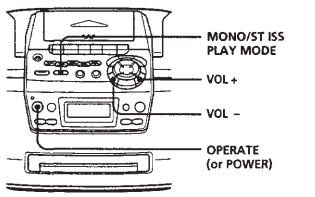
Indicates an FM stereo broadcast



Tips

- If the FM broadcast is noisy, press MONO/ST ISS•PLAY MODE until "Mono" appears in the display and the radio will play in monaural.
- Next time you want to listen to the radio, just press BAND. The player turns on automatically and starts playing the previous station.
- *CFD-S47 only:*
  If a very strong station signal causes noise while listening to FM programs, set FM SENS at the rear to LOCAL. Normally, set it to DX.

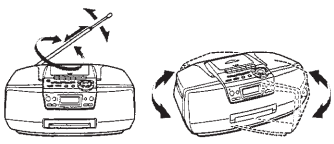
Use these buttons for additional operations



To	Press
adjust the volume	VOL +, –
turn on/off the radio	OPERATE (or POWER, see page 2)

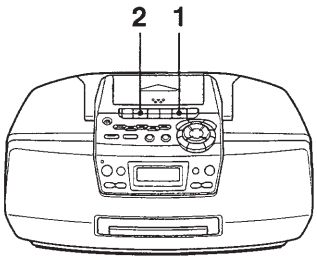
To improve broadcast reception

Reorient the antenna for FM. Reorient the player itself for AM or MW/LW.



for FM for AM/MW/LW

Playing a tape

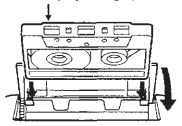


Connect the supplied AC power cord (see page 25).

1

Press ■⏏ to open the tape compartment and insert a recorded tape. Use TYPE I (normal) tape only. Close the compartment.

With the side you want to play facing upward



2

Press ►.

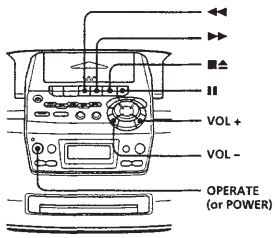
The player turns on (direct power-on) and starts playing.

Display

Tip

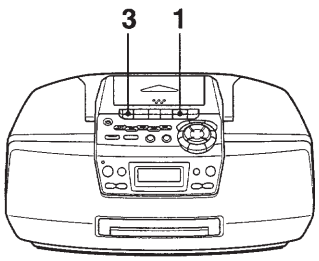
Next time you want to listen to a tape, just press ►. The player turns on automatically and starts playing the tape.

Use these buttons for additional operations



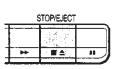
To	Press
adjust the volume	VOL +, –
stop playback	■⏏
fast-forward or rewind the tape	►► or ◄◄
pause playback	II Press the button again to resume play after pause.
eject the cassette	■⏏
turn on/off the player	OPERATE (or POWER, see page 2)

Recording on a tape



Connect the supplied AC power cord (see page 25).

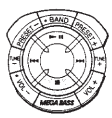
1



Press ■⏏ to open the tape compartment and insert a blank tape. Use TYPE I (normal) tape only.

With the side you want to record on facing upward

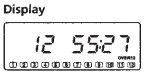
2



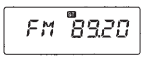
Select the program source you want to record.

To record from the CD player, insert a CD (see page 4) and press ■ on the CD section.

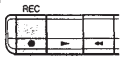
Display



To record from the radio, tune in the station you want (see page 6).



3

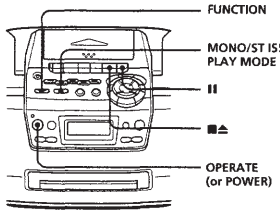


Press ● to start recording (► is depressed automatically).

Tips

- Adjusting the volume or the audio emphasis (see page 27) will not affect the recording level.
- If the AM or MW/LW program makes a whistling sound after you've pressed ● in step 3, press MONO/ST ISS•PLAY MODE (Interference Suppress switch) repeatedly until the noise is at a minimum.
- For the best results, use the AC power as a power source.
- To erase a recording, proceed as follows:
  1 Insert the tape whose recording you want to erase.
  2 Press FUNCTION to select "TAPE".
  3 Press ●.

Use these buttons for additional operations



To	Press
stop recording	■⏏
pause recording	II Press the button again to resume recording.
turn on/off the player	OPERATE (or POWER, see page 2)

SECTION 2
DISASSEMBLY

• The equipment can be removed using the following procedure.

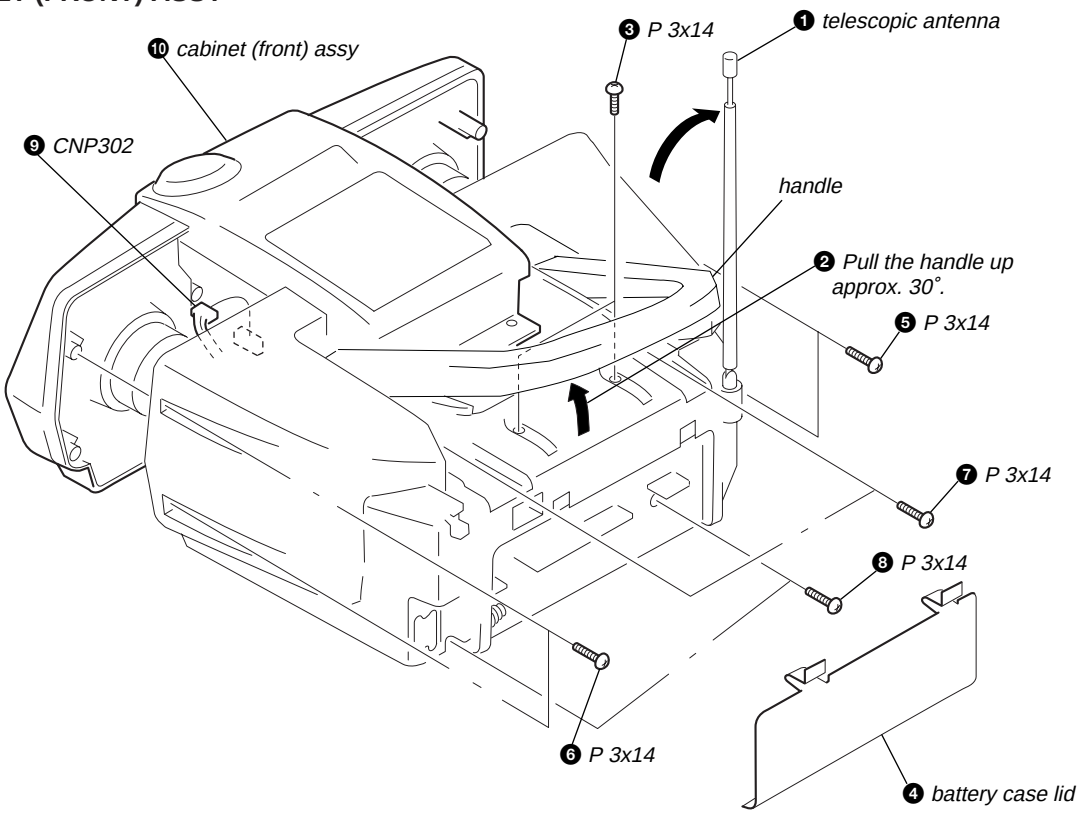
Set ➡ Cabinet (front) assy ➡ Cabinet (upper) assy ➡ CD mechanism block ➡ SW (L) board, SW (R) board

Chuck plate assy ➡ Tray ➡ Loading board ➡ CD board ➡ CD mechanism block

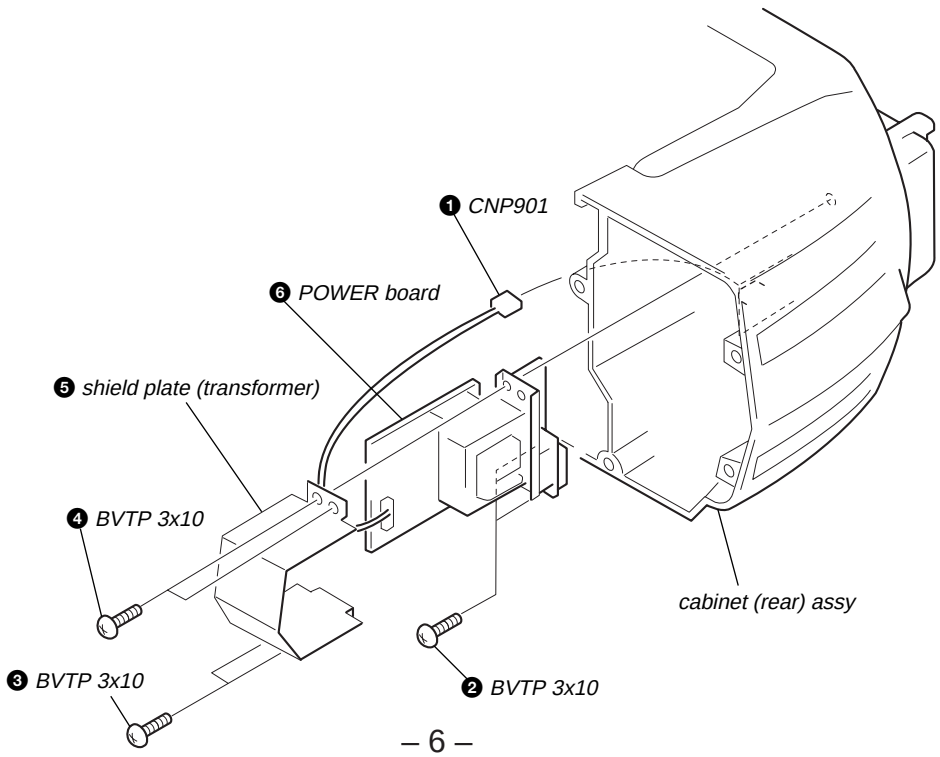
Main board ➡ SW (TOP) board, Record/Playback switch board, Headphone board ➡ Cassette mechanism block

Note : Follow the disassembly procedure in the numerical order given.

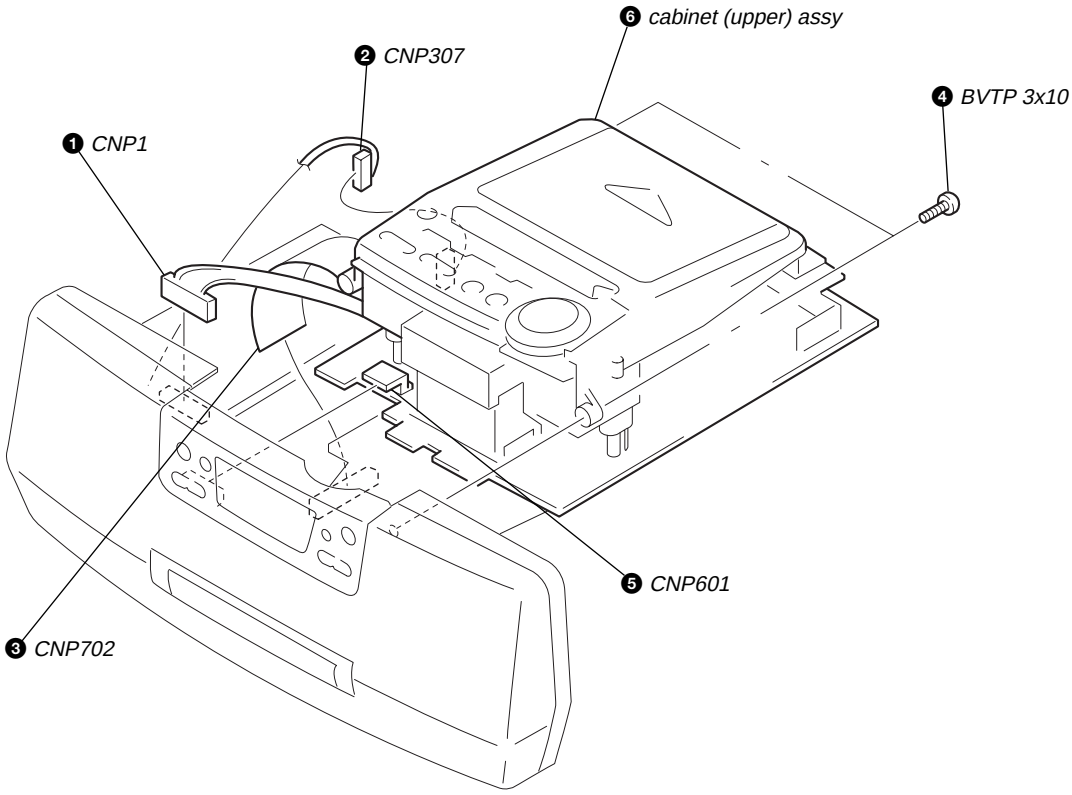
2-1. CABINET (FRONT) ASSY



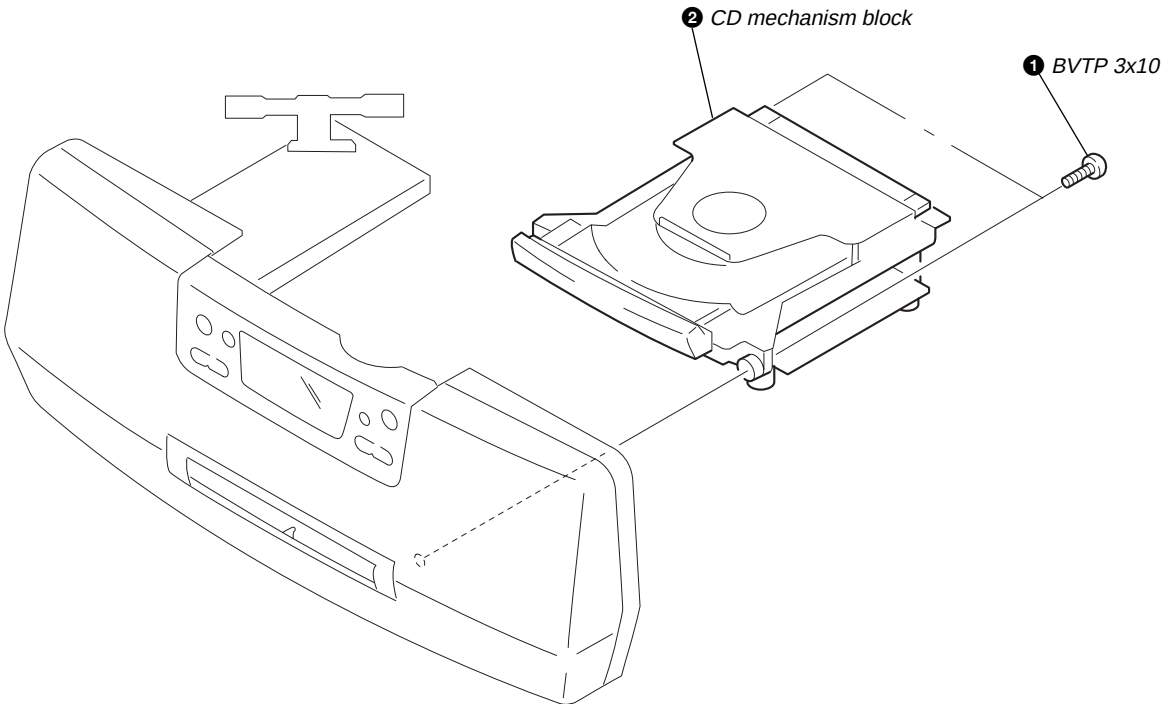
2-2. POWER BOARD



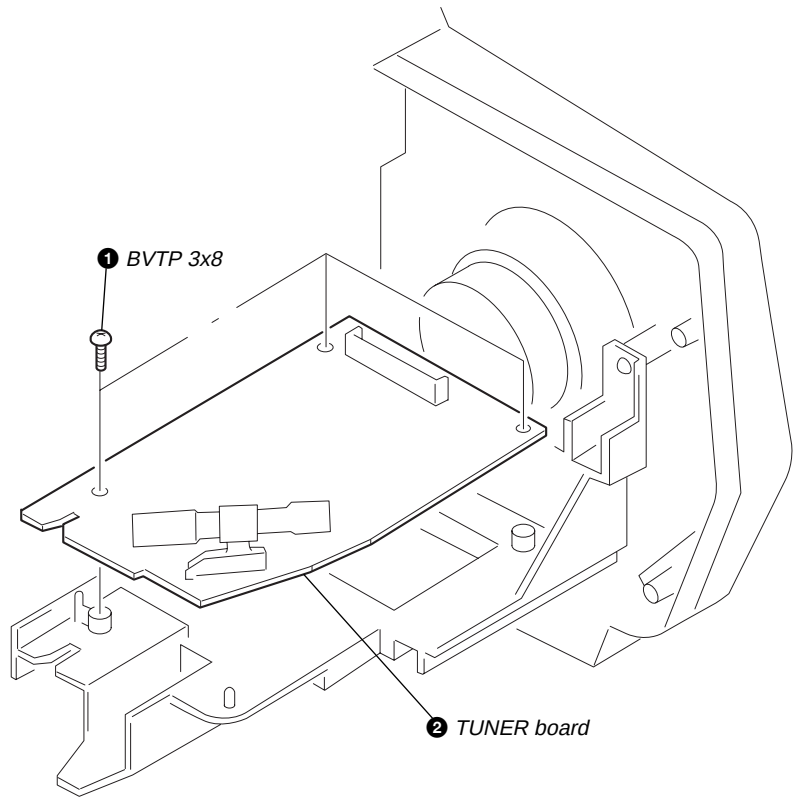
2-3. CABINET (UPPER) ASSY



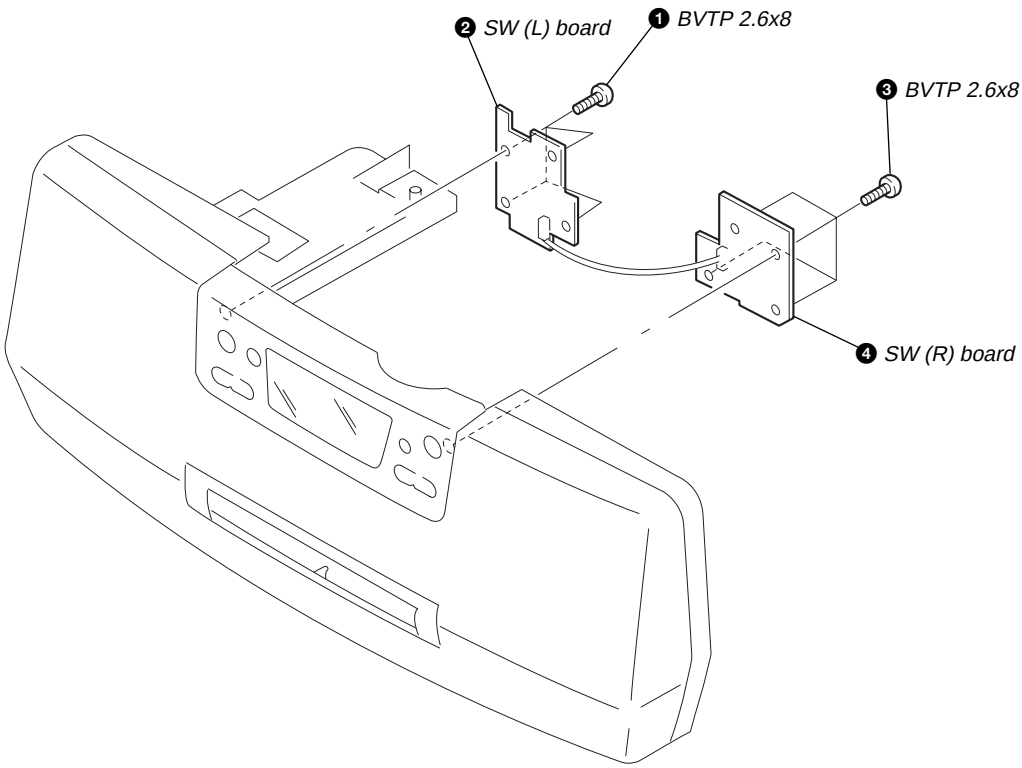
2-4. CD MECHANISM BLOCK



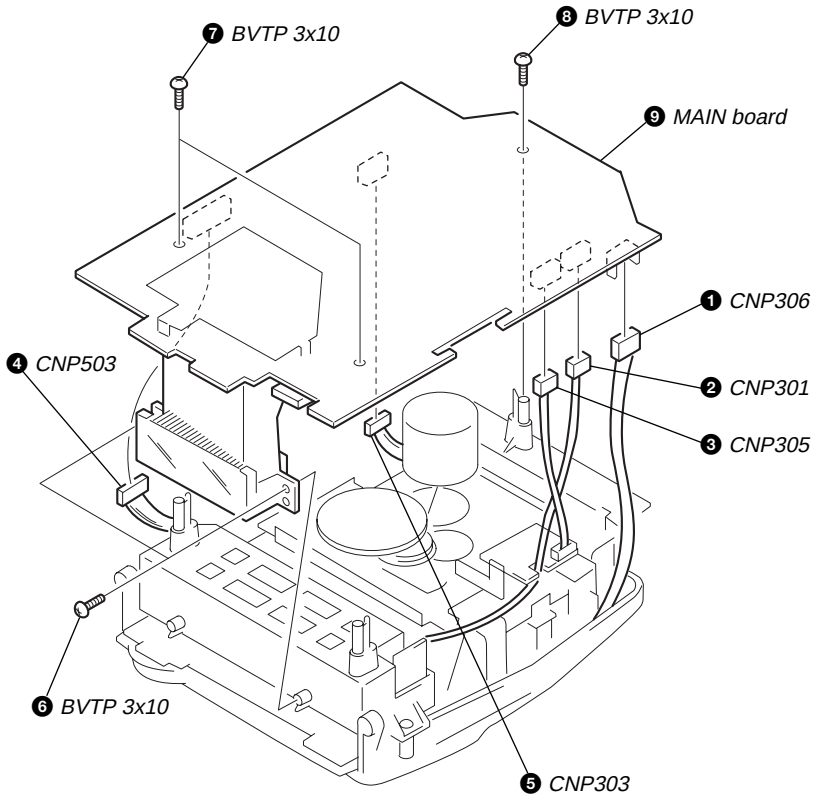
2-5. TUNER BOARD



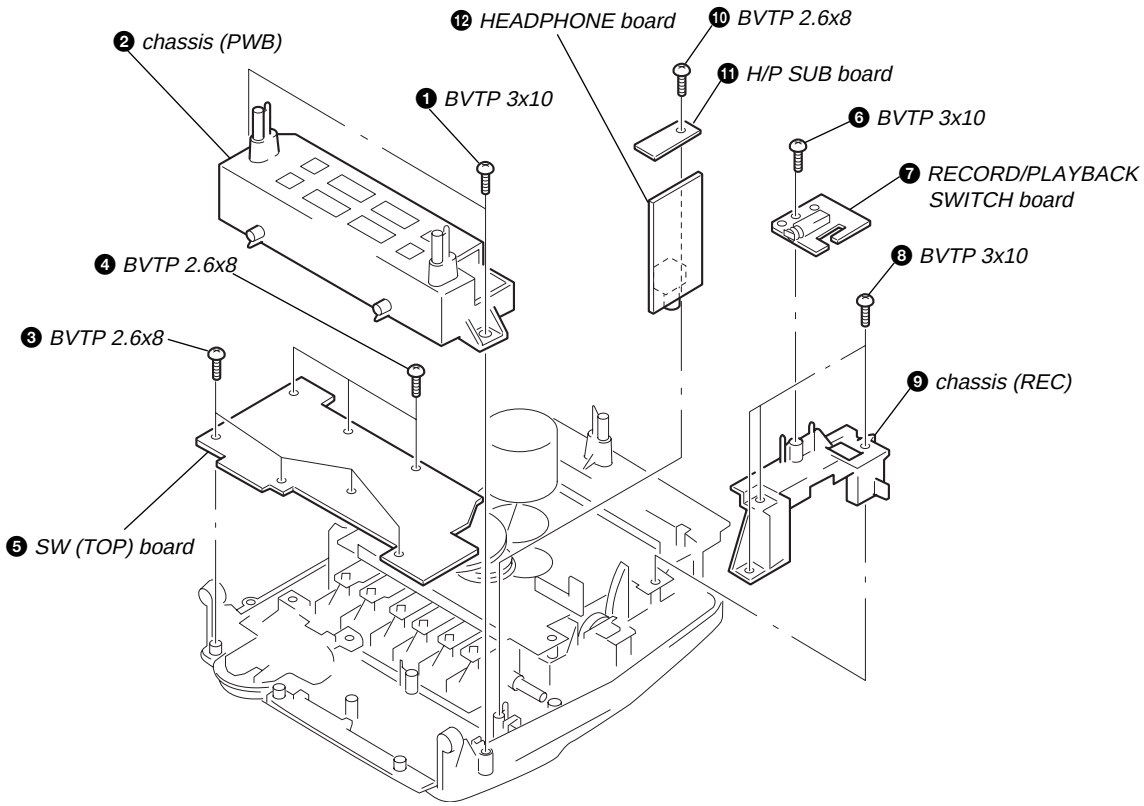
2-6. SW (L) BOARD, SW (R) BOARD



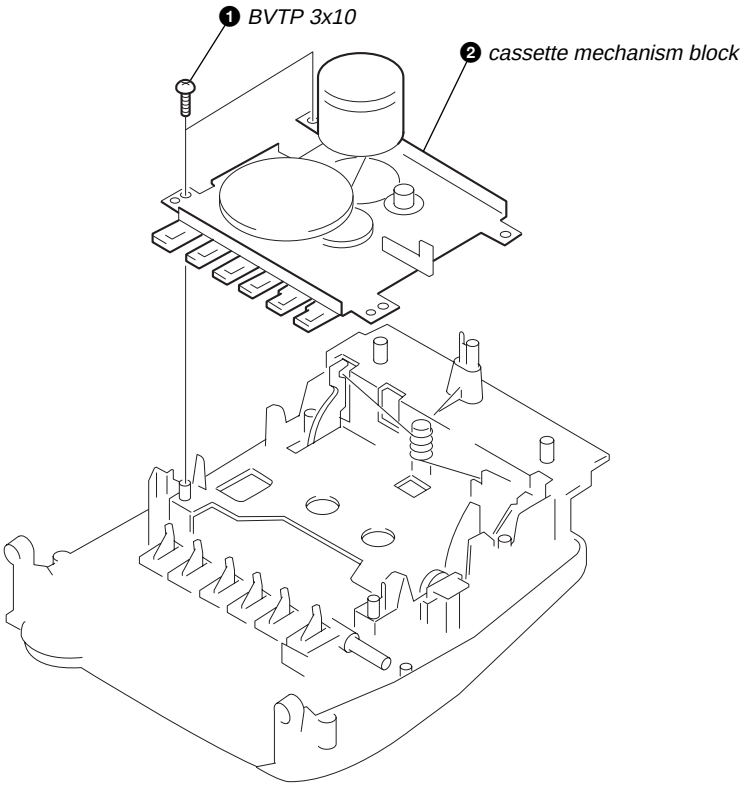
2-7. MAIN BOARD



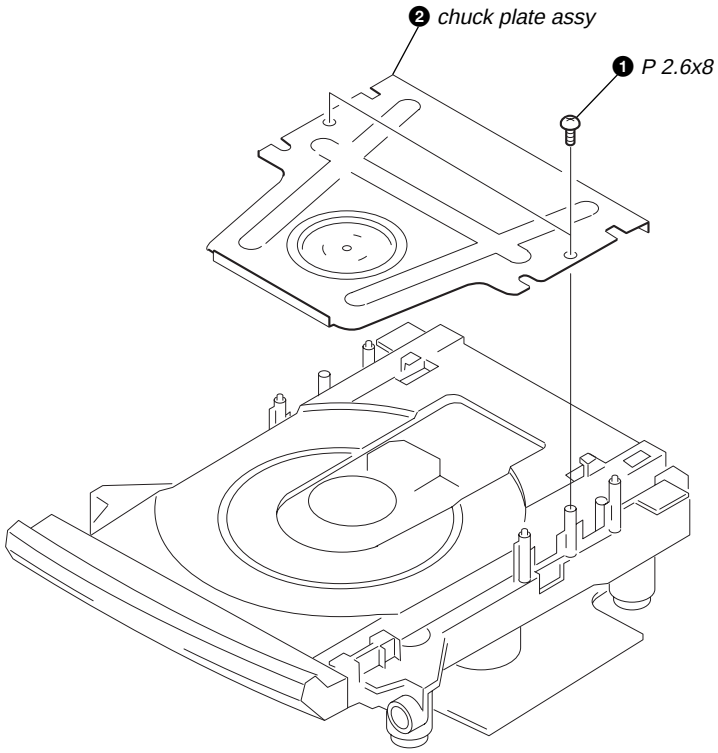
2-8. SW (TOP) BOARD, RECORD/PLAYBACK SWITCH BOARD, HEADPHONE BOARD



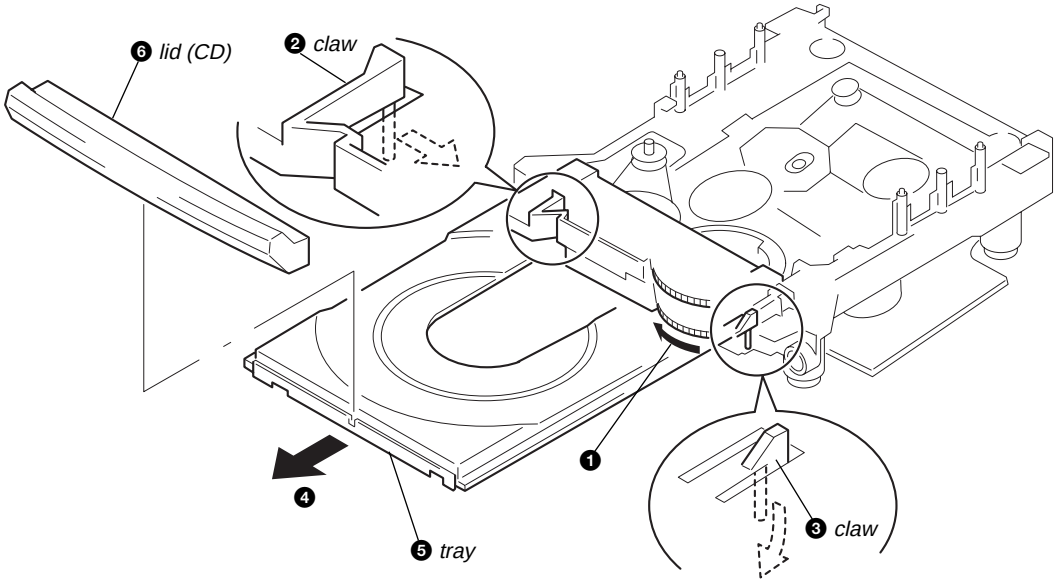
2-9. CASSETTE MECHANISM BLOCK



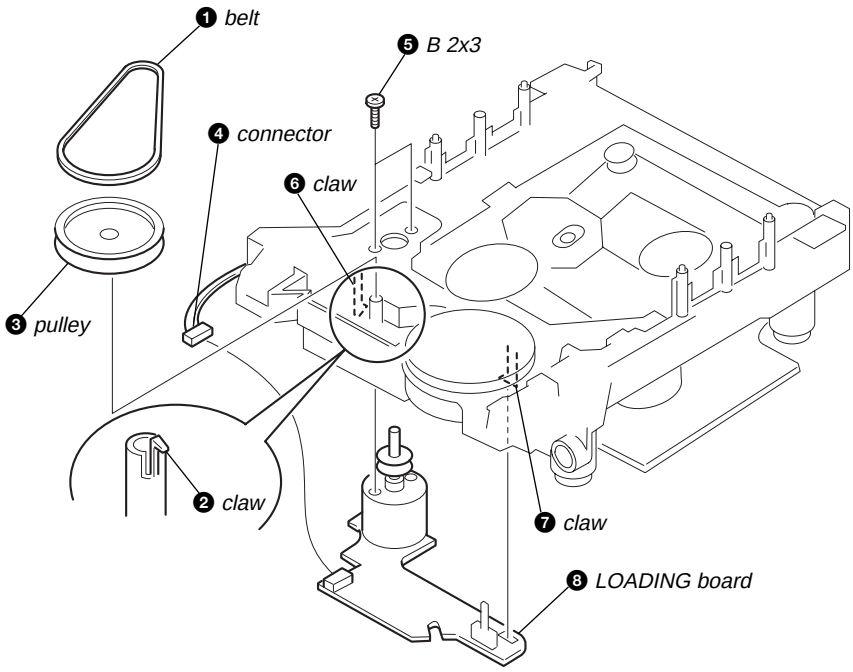
2-10. CHUCK PLATE ASSY



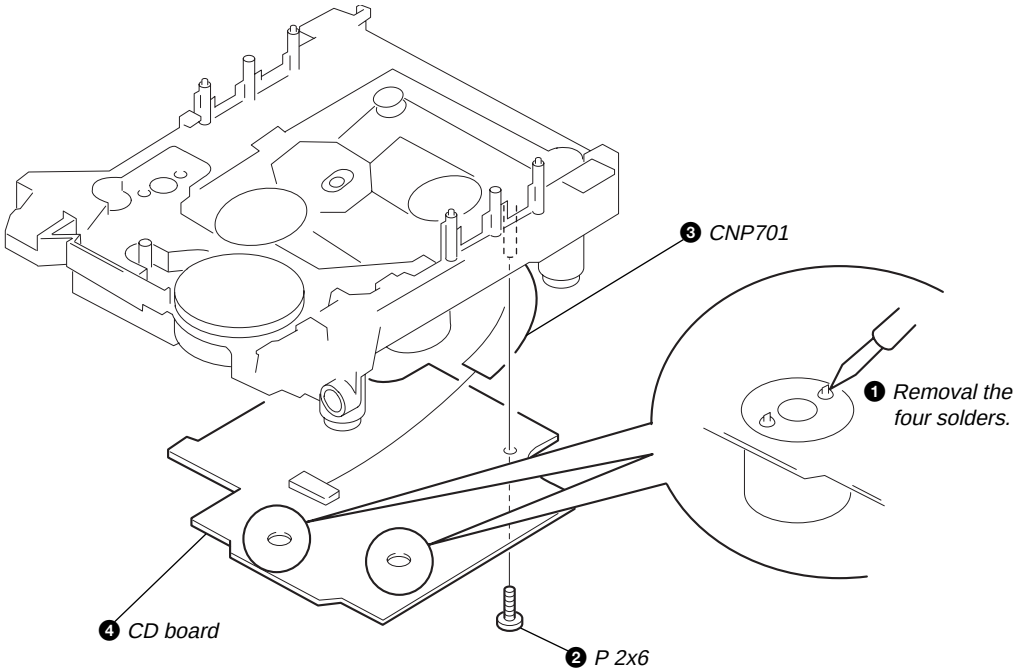
2-11. TRAY



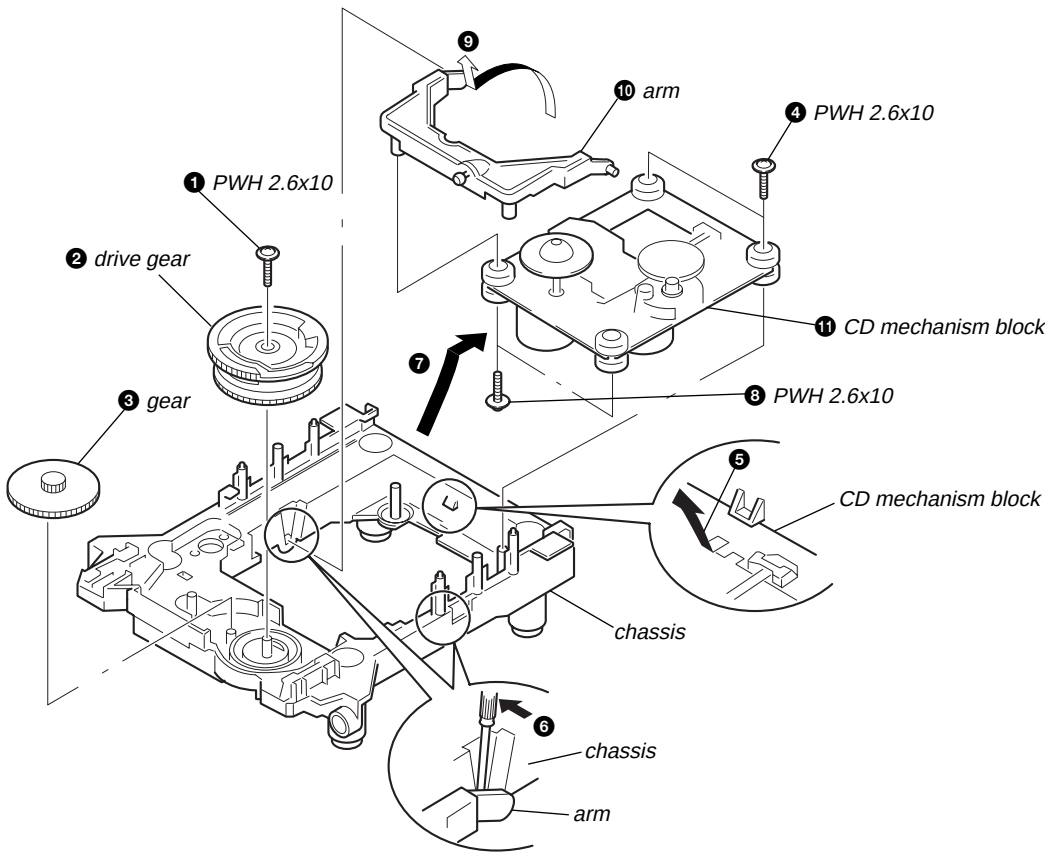
2-12. LOADING BOARD



2-13. CD BOARD



2-14. CD MECHANISM BLOCK



SECTION 3
MECHANICAL ADJUSTMENTS

PRECAUTION

1. Clean the following parts with a denatured-alcohol-moistened swab :
   record/playback head, erase head, capstan, pinch roller, rubber belts, idlers
2. Demagnetize the record/playback head with a head demagnetizer. (Do not bring the head magnetizer close to the erase head.)
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Mode	Torque meter	Meter reading
FWD	CQ-102C	30 – 70 g • cm (0.42 – 0.97 oz • inch)
FWD Back Tension	CQ-102C	1.5 – 5.5 g • cm (0.021 – 0.076 oz • inch)
FF	CQ-201B	more than 60 g • cm (more than 0.83 oz • inch)
REW	CQ-201B	more than 60 g • cm (more than 0.83 oz • inch)

Tape Tension Measurement

Mode	Tension meter	Meter Reading
FWD	CQ-403A	more than 100 g (more than 3.53 oz)

SECTION 4
ELECTRICAL ADJUSTMENTS

TAPE SECTION **0 dB = 0.775 V**

• Standard Output Level

Output terminal	HP OUT
load impedance	32 Ω
output signal level	0.25 V (–10 dB)

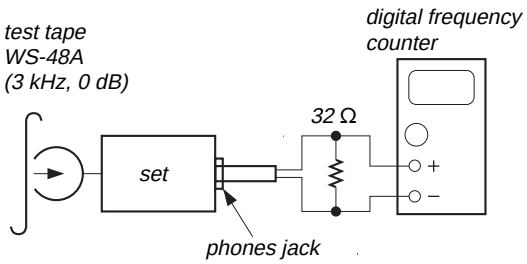
• Test Tape

Type	Signal	Used for
WS-48A	3 kHz, 0 dB	tape speed adjustment

Tape Speed Adjustment

Procedure:

Mode: playback



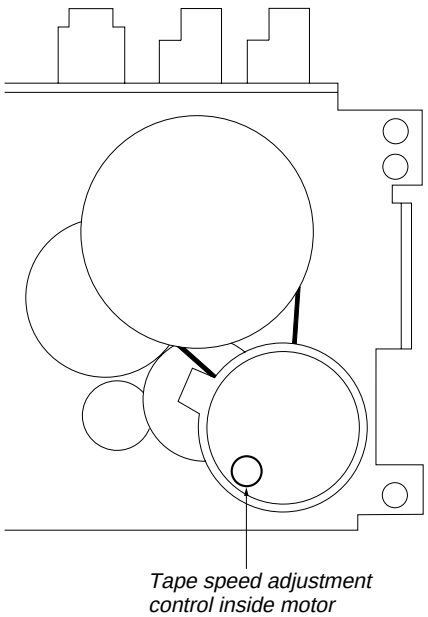
Adjust so that the value on the frequency counter is 3 kHz.

Specification Value:

Digital frequency counter
2,985 to 3,015 Hz

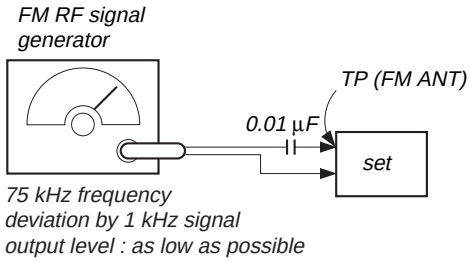
Adjust so that the frequency at the beginning and that at the end of tape winding are between 2,955 to 3,045 Hz.

Adjustment Location:

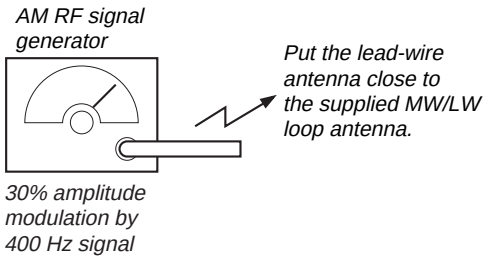


TUNER SECTION | 0 dB = 1 μV

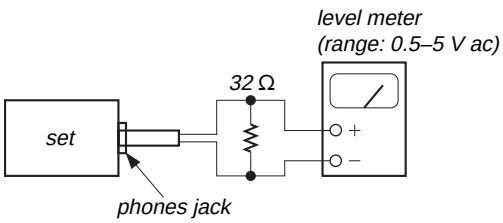
- **FM Section**
  Setting:
  BAND switch: FM



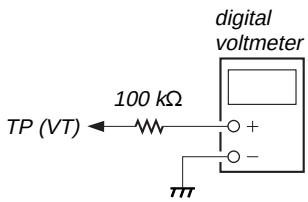
- **MW/LW Section**
  Setting:
  BAND switch: MW or LW


AM RF signal generator
Put the lead-wire antenna close to the supplied MW/LW loop antenna.
30% amplitude modulation by 400 Hz signal

- **Connecting Level Meter (FM, MW and LW)**



- **Connecting Digital Voltmeter (FM, MW and LW)**



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

FM FREQUENCY COVERAGE ADJUSTMENT		
Frequency Display	87.5 MHz	108 MHz
Reading on Digital voltmeter	1.25 ± 0.3 V	5.2 ± 0.1V
Adjustment Part	<confirmation>	L2

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L1	CT1
87.5 MHz	108 MHz

MW FREQUENCY COVERAGE ADJUSTMENT		
Frequency Display	531 kHz	1,611 kHz
Reading on Digital voltmeter	0.8 $^{+ 0.5\ V}_{- 0.4\ V}$	5.2 $^{+ 0.5V}_{- 0.4\ V}$
Adjustment Part	<confirmation>	<confirmation>

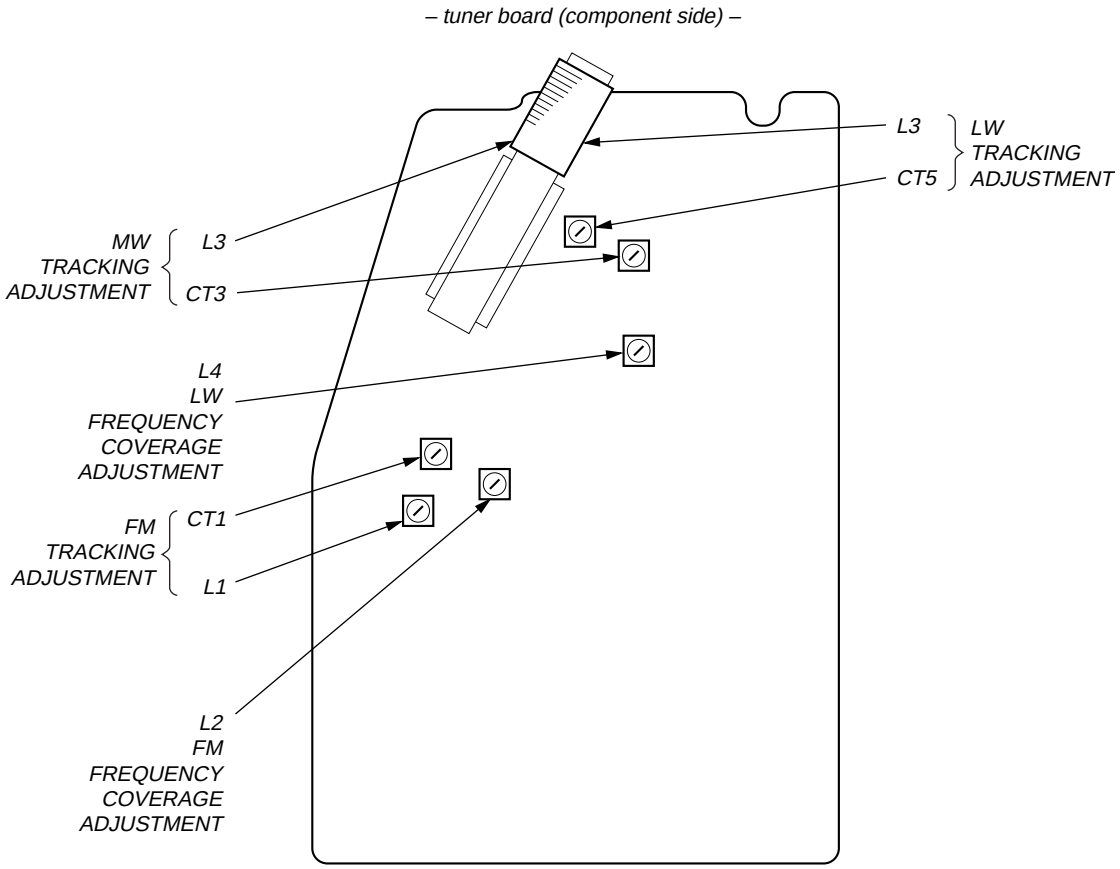
MW TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L3	CT3
621 kHz	1,404 kHz

LW FREQUENCY COVERAGE ADJUSTMENT		
Frequency Display	153 kHz	279 kHz
Reading on Digital voltmeter	0.6 $^{+ 0.4\ V}_{- 0.3\ V}$	5.5 ± 0.1V
Adjustment Part	<confirmation>	L4

LW TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L3	CT5
162 kHz	261 kHz

Adjustment Location: See page 15.

Adjustment Location:



CD SECTION

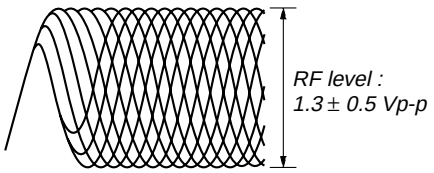
CD section adjustments are done automatically in this set.
In case of operation check, confirm that focus bias.

FOCUS BIAS CHECK

1. Connect the oscilloscope between IC701 pin ㉝ and GND on CD board.
2. Insert the disc (YEDS-18). (Part No. : 3-702-101-01)
3. Press the ▶II button.
4. Confirm that the oscilloscope waveform is as shown in the figure below. (eye pattern)
   A good eye pattern means that the diamond shape (◇) in the center of the waveform can be clearly distinguished.

• RF signal reference waveform (eye pattern)

VOLT/DIV : 200 mV (10 : 1 probe in use)
TIME/DIV : 500 nS



When observing the eye pattern, set the oscilloscope for AC range and raise vertical sensitivity.

SECTION 5
DIAGRAMS

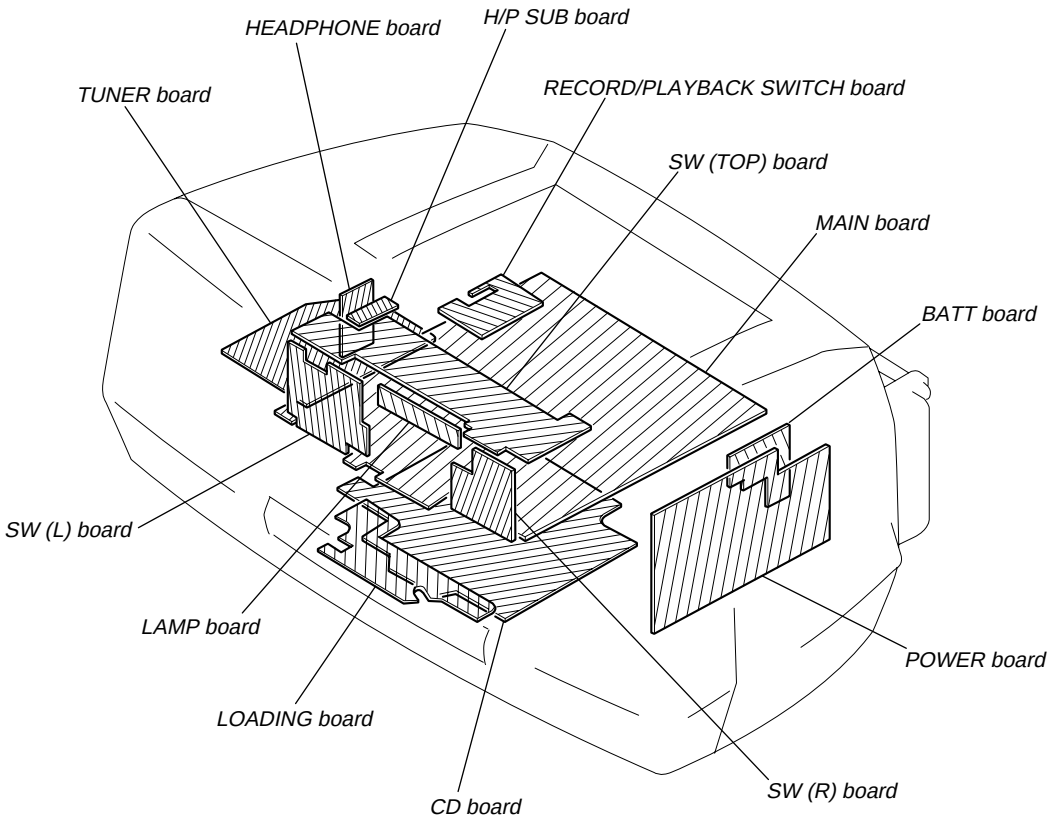
5-1. IC PIN DESCRIPTION

• IC501 CXP83120A-035Q (SYSTEM CONTROL)

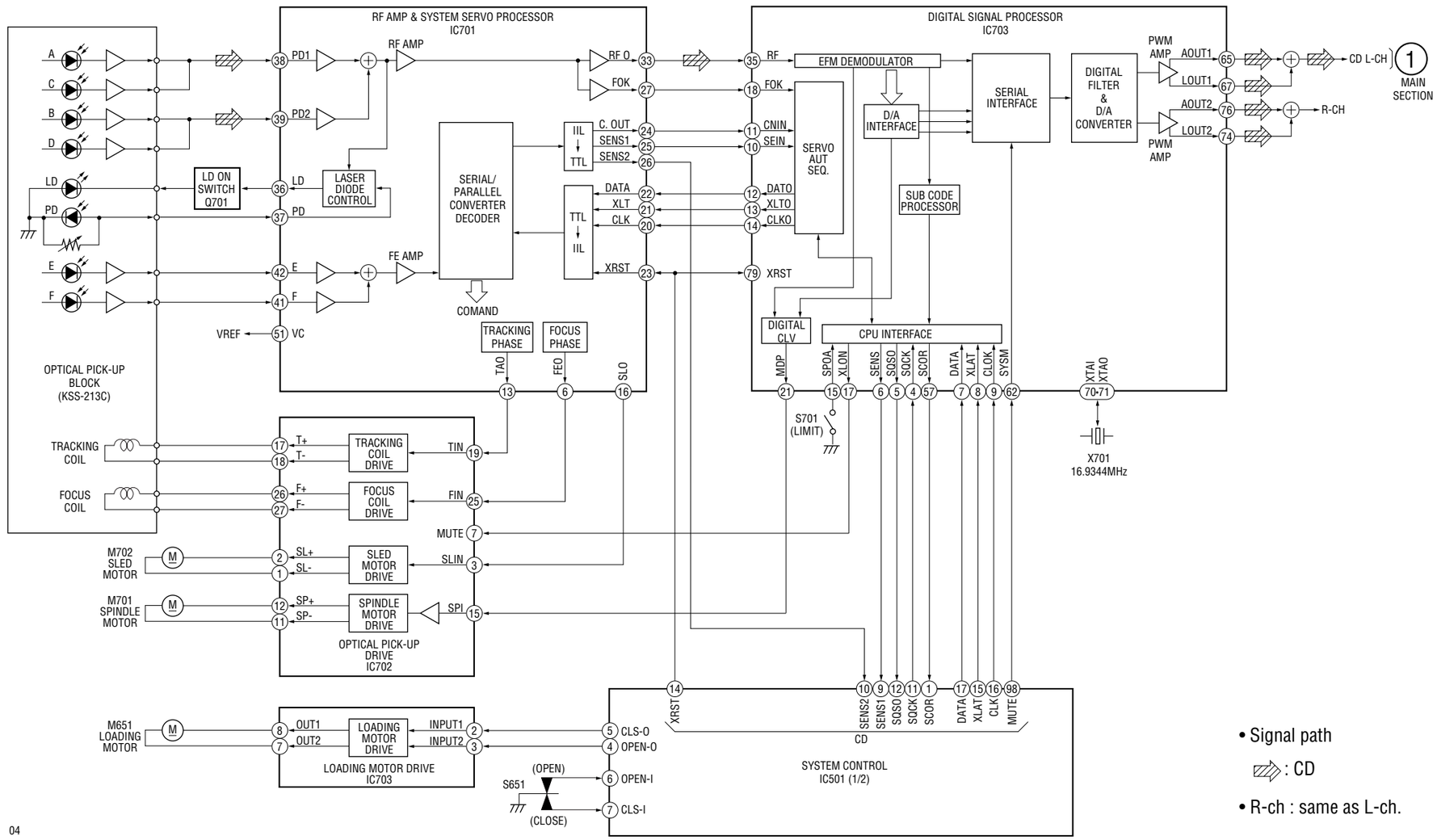
Pin No.	Pin Name	I/O	Pin Description
1	C-SCOR	I	CD SCOR input
2	WP	I	Wake-up input
3	RMC	I	Sircs receiver input
4	CLOSE-O	O	CD loading motor control output (Loading direction)
5	OPEN-O	O	CD loading motor control output (Eject direction)
6	OPEN-I	I	CD open switch input
7	CLOSE-I	I	CD close switch input
8	NC	—	Not used.
9	C-SENS1	I	CD SENSE-1 input
10	C-SENS2	I	CD SENSE-2 input
11	C-SQCK	O	CD Sub-Q read clock output
12	C-SQSO	I	CD Sub-Q data input
13	NC	—	Not used.
14	C-XRST	O	CD reset output
15	C-XLT	O	CD serial latch output
16	C-CLK	O	CD serial clock output
17	C-DATA	O	CD serial data output
18	R-ST	O	Stereo ingicator output
19	R-DATA	O	Tuner PLL data output
20	R-CLK	O	Tuner PLL clock output
21	R-COUNT	I	Tuner PLL data input
22	R-CE	O	Tuner PLL chip enable output
23	PCON	O	System power control output
24	V-DATA	O	Volume serial data output
25	V-CLOCK	O	Volume serial clock output
26	V-CE	O	Volume serial chip enable output
27	REG-CHK	I	Low voltage detection input
28	B/L-CONT	O	Back light control output
29	REC	I	Tape record signal input
30	INI	O	Tuner select initial setting output
31	LOCAL/DX	—	Not used.
32	VERSION	I	Tuner destination band select input
33 – 36	KEY-1 – 4	I	Key input
37	S-CLK	O	Shift clock output
38	RST	I	System reset input
39	EXTAL	I	Oscillation input (4.19 MHz)
40	XTAL	O	Oscillation output (4.19 MHz)
41	VSS	—	GND
42	NC	—	Not used.
43	VSS	—	GND
44	AVREF	I	A/D converter VREF input
45	AVSS	—	Analog GND
46	VL	O	LCD drive port ON/OFF output
47 – 49	VLC-3 – 1	O	LCD drive voltege terminal
50 – 53	COM0 – 3	O	LCD drive common output
54 – 76	SEG0 – 22	O	LCD drive segment output
77 – 79	—	—	Not used.
80	F-TAPE	O	Tape power select control output
81	F-TU	O	Tuner power select control output
82	F-CD	O	CD power select control output
83	LED ROCK	O	LED (ROCK) drive signal output

Pin No.	Pin Name	I/O	Pin Description
84	LED POP	O	LED (POP) drive signal output
85	LED LIVE	O	LED (LIVE) drive signal output
86	LED VOCAL	O	LED (VOCAL) drive signal output
87, 88	NC	—	Not used.
89	VDD	—	Power supply pin (+5 V)
90	NC	—	Not used.
91	VSS	—	GND
92	TX	O	Oscillation output (32.768 kHz)
93	TEX	I	Oscillation input (32.768 kHz)
94	ISS1	O	Tape ISS1 control output
95	ISS2	O	Tape ISS2 control output
96	A-MUTE	O	Audio mute output
97	R-MUT	O	Tuner mute output
98	C-MUT	O	CD mute output
99	TC1	I	Tape play switch input
100	—	—	Not used (Connect to GND).

5-2. CIRCUIT BOARDS LOCATION



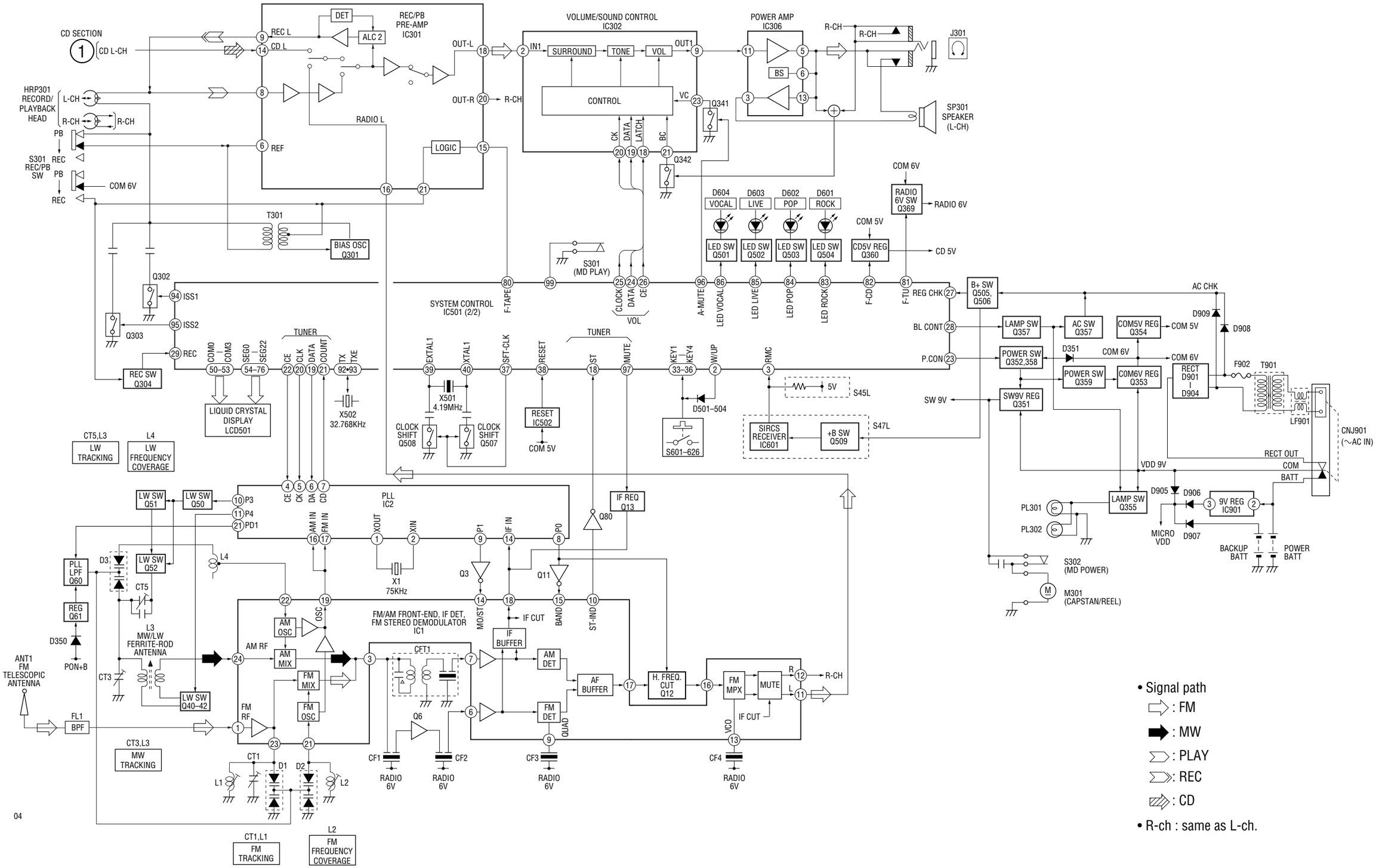
5-3. BLOCK DIAGRAM — CD SECTION —



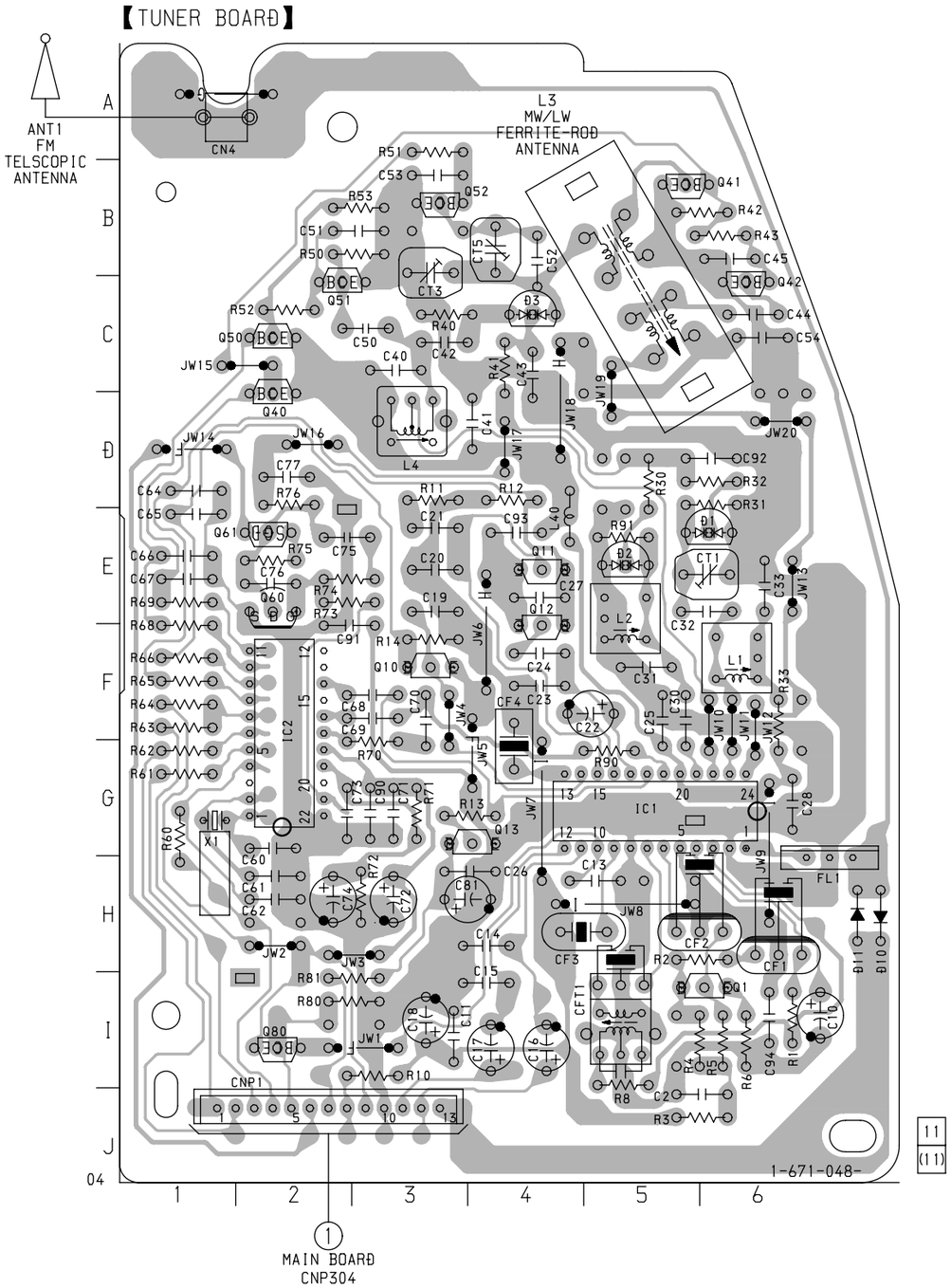
04

- Signal path
  : CD
- R-ch : same as L-ch.

5-4. BLOCK DIAGRAM — MAIN SECTION —



5-5. PRINTED WIRING BOARD — TUNER SECTION — • Refer to page 18 for Circuit Boards Location.



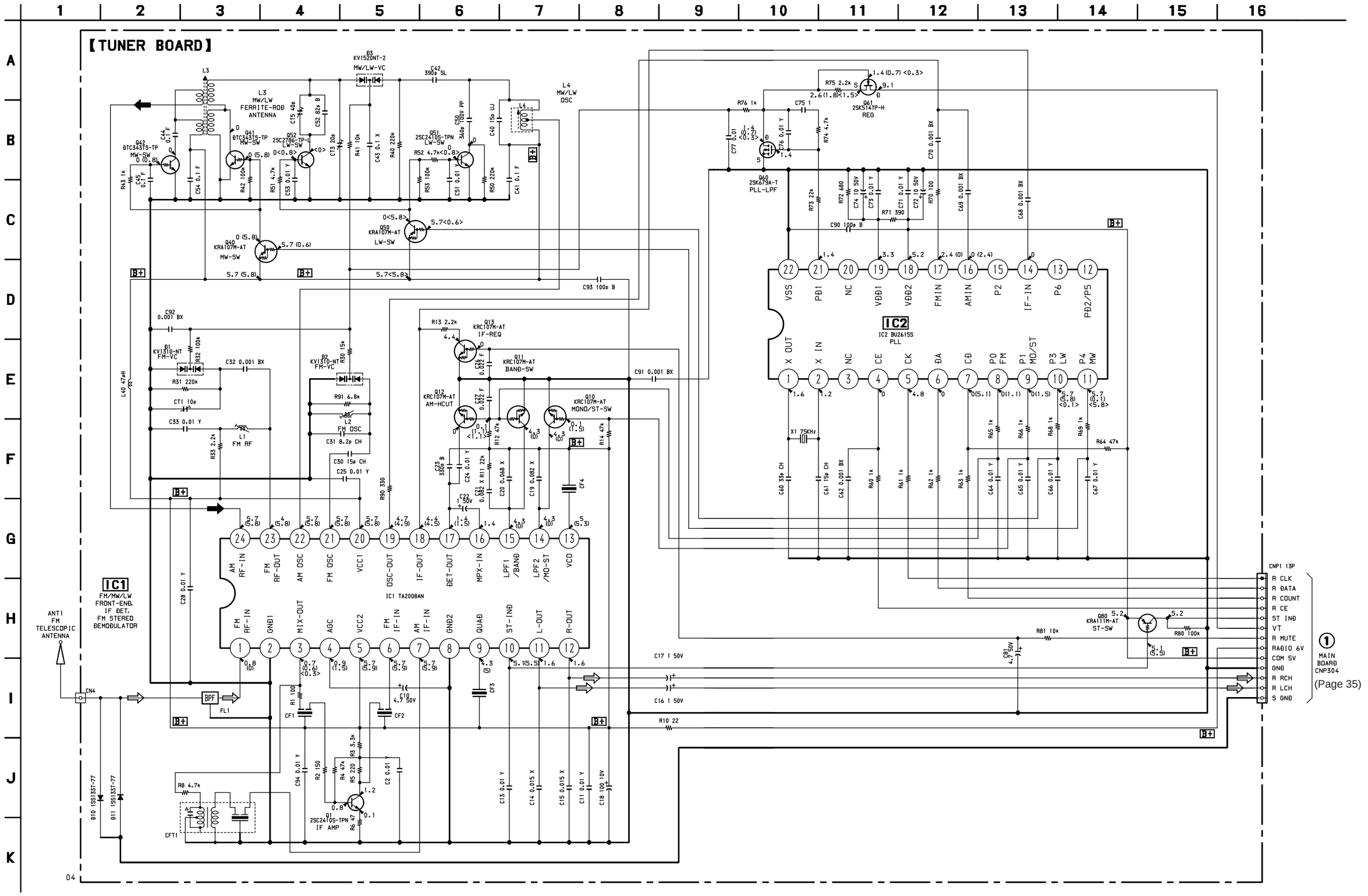
• **Semiconductor Location**

Ref. No.	Location
D1	E-6
D2	E-5
D3	C-4
D10	H-6
D11	H-6
IC1	G-5
IC2	F-2
Q1	I-6
Q10	F-3
Q11	E-4
Q12	F-4
Q13	G-4
Q40	D-2
Q41	B-5
Q42	C-6
Q50	C-2
Q51	C-2
Q52	B-3
Q60	E-2
Q61	E-2
Q80	I-2

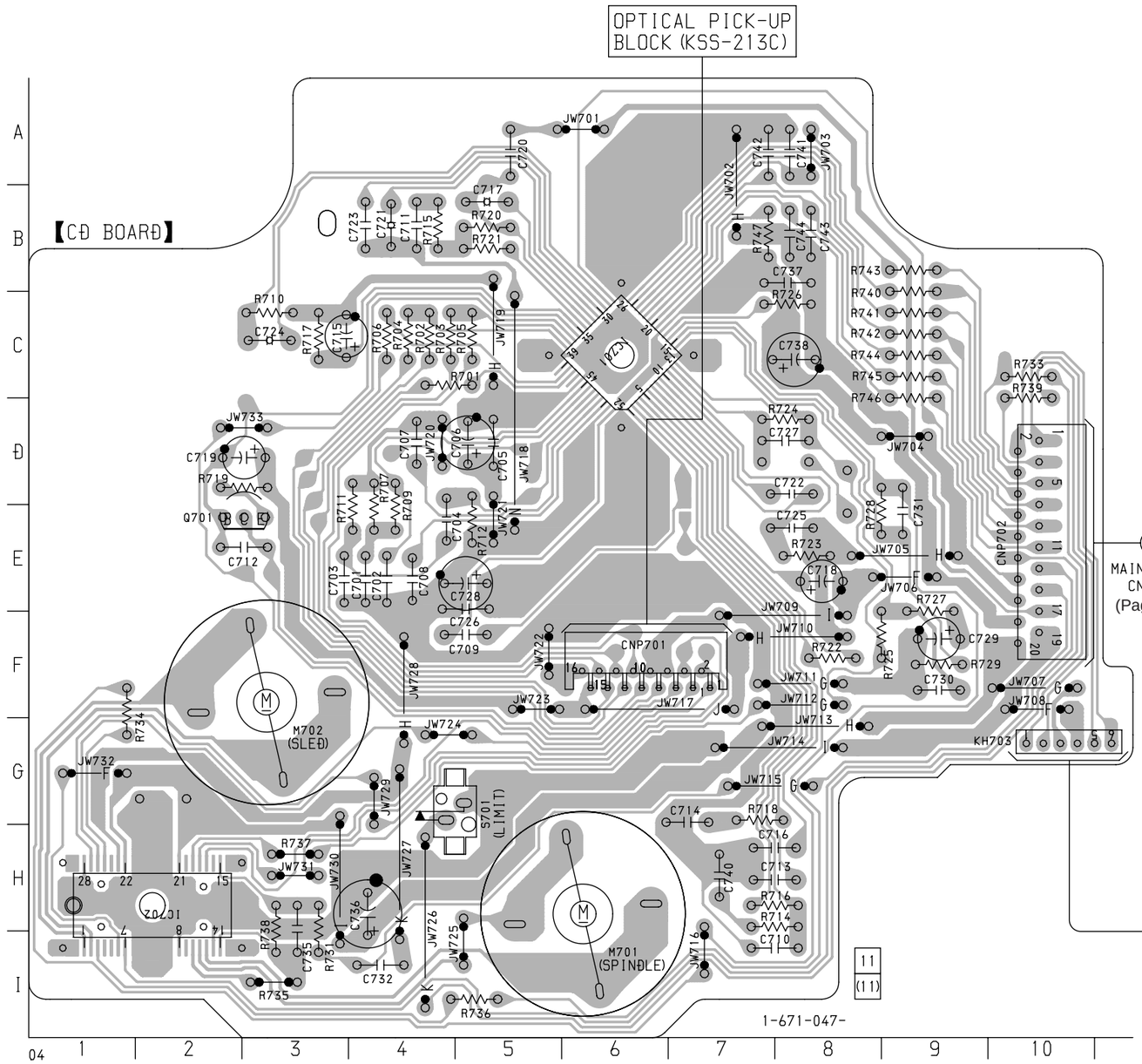
Note on Printed Wiring Boards:
- ——○ : parts extracted from the component side.
- ▒▒▒ : Pattern from the side which enables seeing.

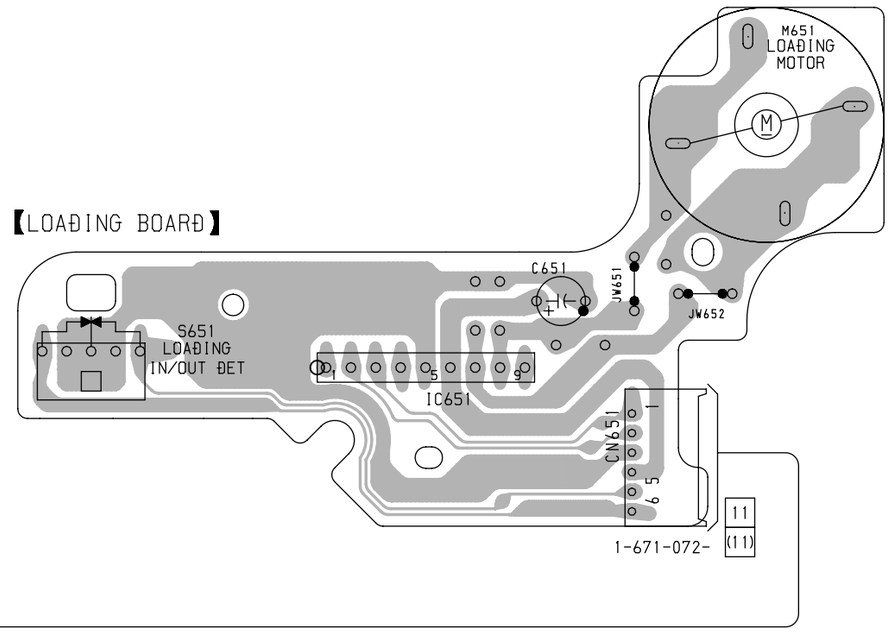
Note on Schematic Diagram:
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- △ : internal component.
- B+ : B+ Line.
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
  ( ) : MW
  < > : LW
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ➡ : MW/LW

5-6. SCHEMATIC DIAGRAM — TUNER SECTION — • Refer to page 41 for IC Block Diagrams.



5-7. PRINTED WIRING BOARDS — CD SECTION — • Refer to page 18 for Circuit Boards Location.





• **Semiconductor Location**

Ref. No.	Location
IC701	F-6
IC702	H-2
Q701	E-2

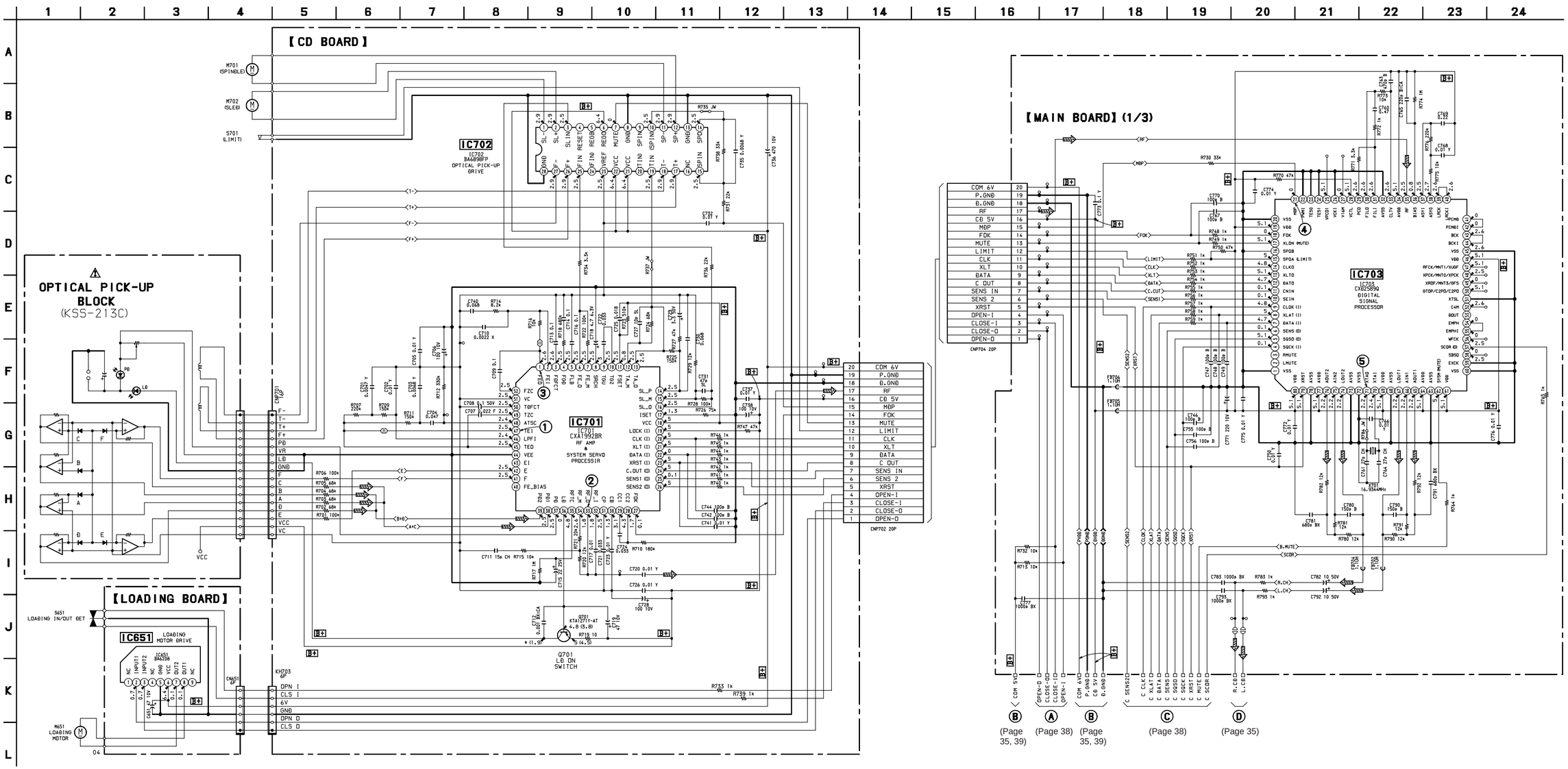
Note on Printed Wiring Boards:
- ○——: parts extracted from the component side.
- ▒▒▒: Pattern from the side which enables seeing.

Note on Schematic Diagram:
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.

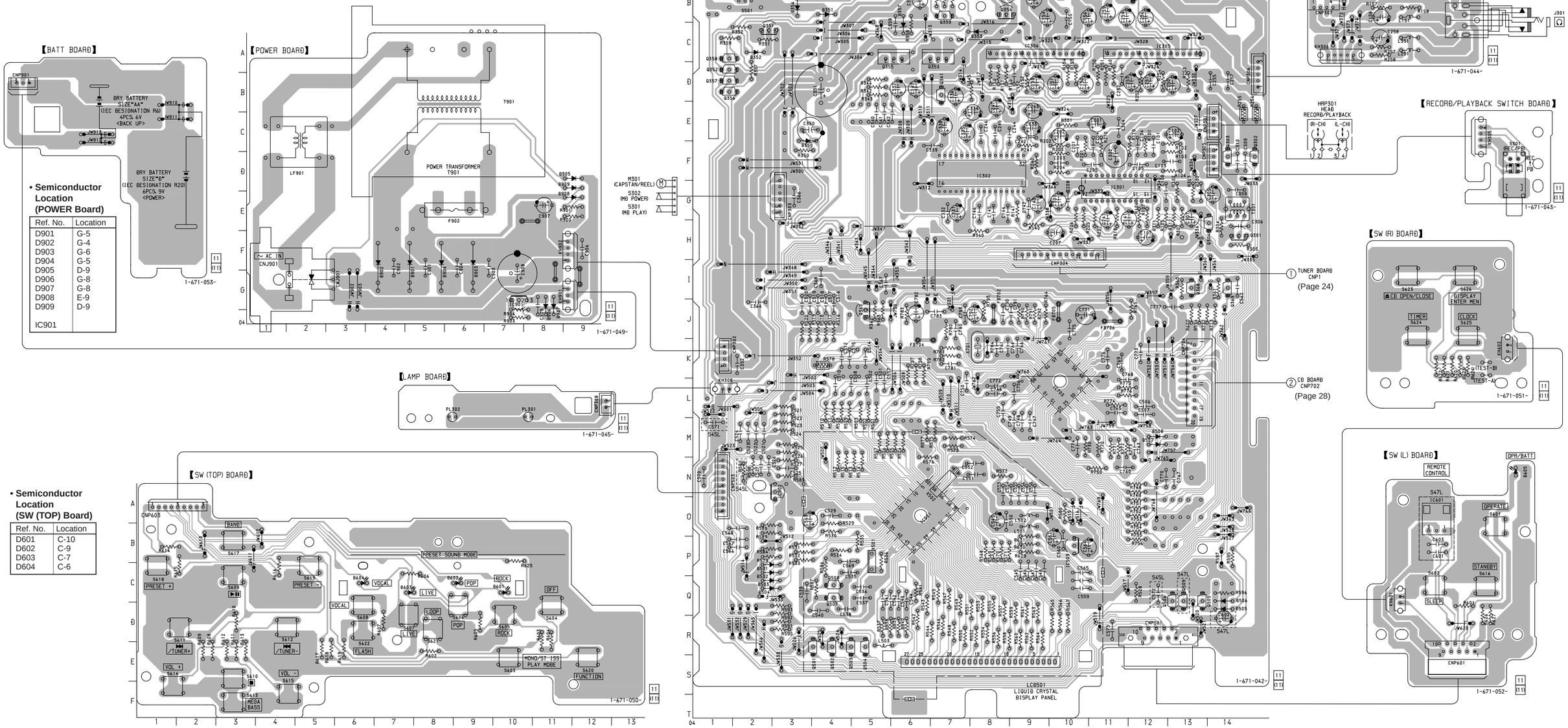
Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

- B+ : B+ Line.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : CD STOP
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  ⇨ : CD

5-8. SCHEMATIC DIAGRAM — CD SECTION — • Refer to page 42 for IC Block Diagrams.



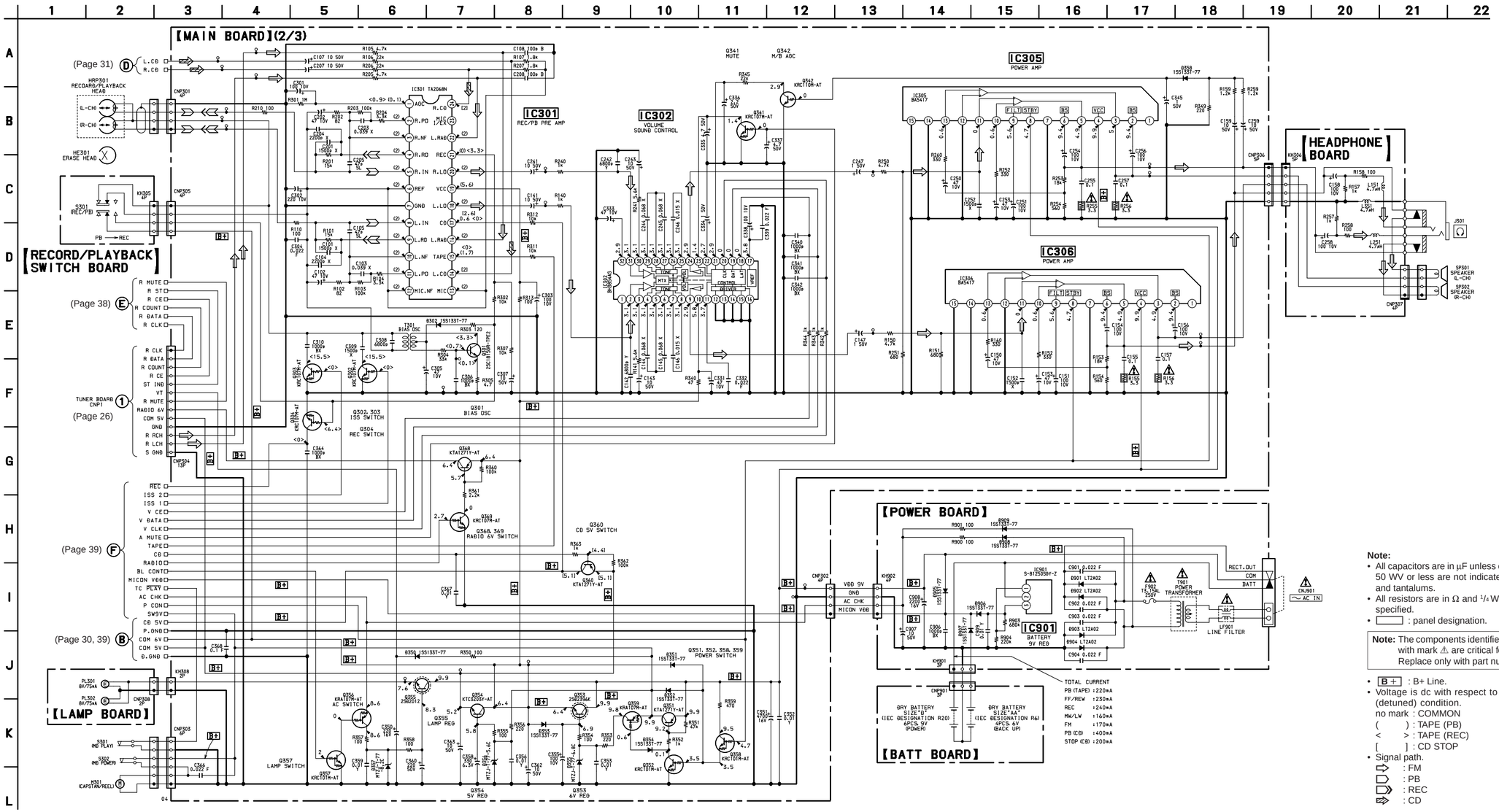
5-9. PRINTED WIRING BOARDS — MAIN SECTION — • Refer to page 18 for Circuit Boards Location.



5-10. SCHEMATIC DIAGRAM — MAIN SECTION (1/2) — • Refer to page 41 for IC Block Diagrams.

• **Semiconductor Location (MAIN Board)**

Ref. No.	Location
D302	G-13
D350	F-3
D351	B-4
D352	C-2
D353	C-8
D354	B-3
D355	A-7
D356	A-8
D357	C-6
D358	B-11
D501	P-2
D502	P-2
D503	Q-2
D504	Q-2
D505	Q-14
D506	Q-14
D507	M-12
D508	M-12
IC301	G-11
IC302	F-8
IC305	C-12
IC306	C-9
IC501	O-6
IC502	N-3
IC503	P-10
IC703	L-10
Q301	H-14
Q302	F-14
Q303	F-14
Q304	H-14
Q341	D-7
Q342	B-11
Q351	C-2
Q352	D-1
Q353	D-6
Q354	B-8
Q355	D-5
Q356	D-1
Q357	D-1
Q358	C-1
Q359	B-7
Q360	J-5
Q368	I-13
Q369	I-14
Q501	R-3
Q502	R-4
Q503	R-4
Q504	R-5
Q505	Q-13
Q506	Q-13
Q507	Q-4
Q508	Q-4
Q509	Q-13

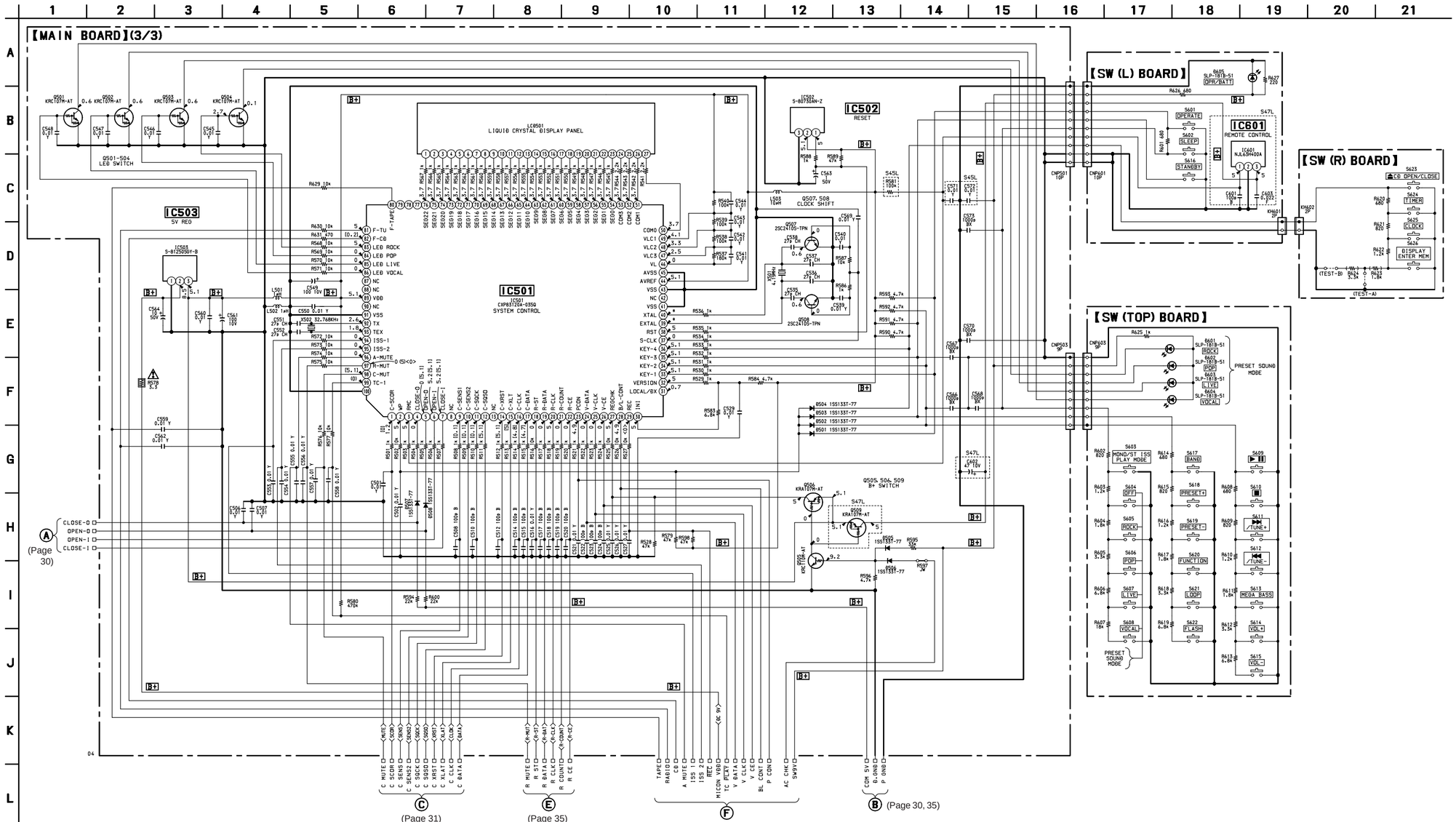


Note:
- All capacitors are in μF unless otherwise noted. pF: μμF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- ▭ : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

- B+ : B+ Line.
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : COMMON
  ( ) : TAPE (PB)
  < > : TAPE (REC)
  [ ] : CD STOP
- Signal path.
  ⇨ : FM
  ⇨ : PB
  ⇨ : REC
  ⇨ : CD

5-11. SCHEMATIC DIAGRAM — MAIN SECTION (2/2) —



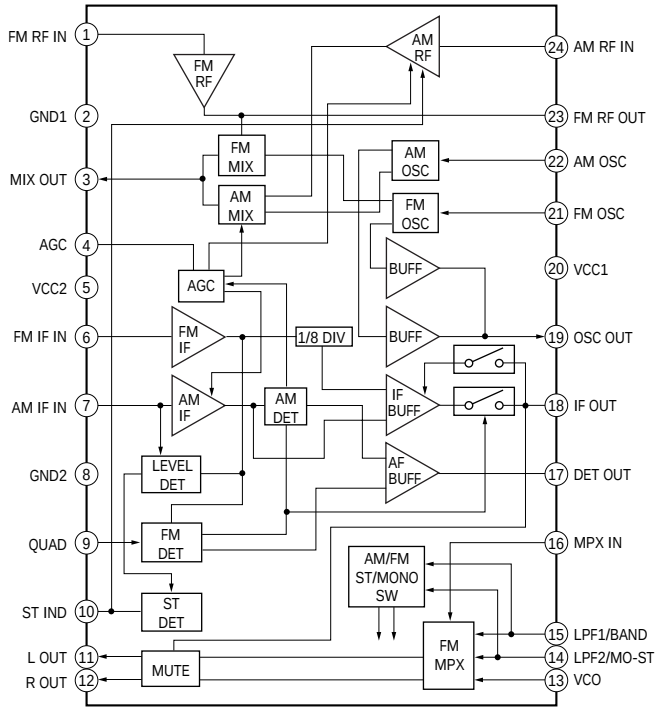
Note:
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- [ ] : panel designation.

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

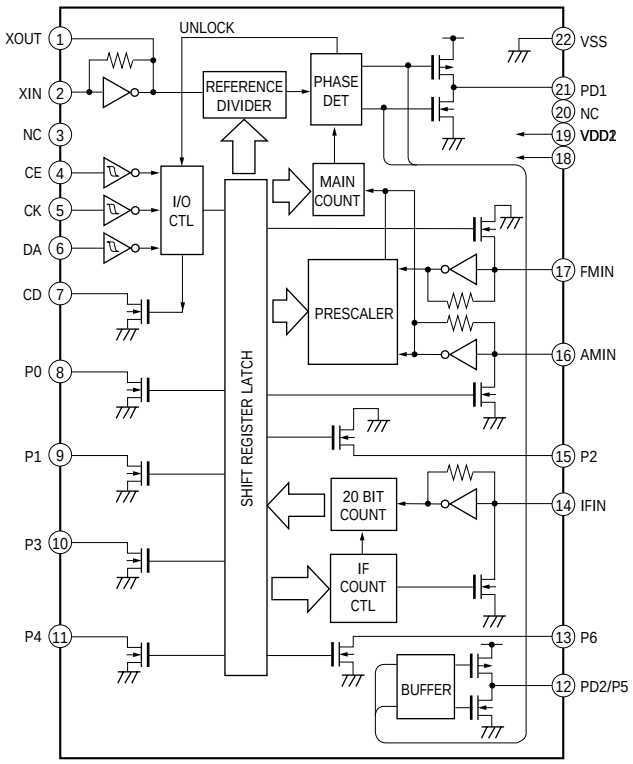
- B+ : B+ Line.
- Voltage is dc with respect to ground under no-signal (detuned) condition.
  no mark : FM
  ( ) : TAPE (PB)
  < > : TAPE (REC)
  [ ] : CD STOP
- Voltages are taken with a VOM (Input impedance 10 MΩ). Voltage variations may be noted due to normal production tolerances.

• **IC Block Diagrams**

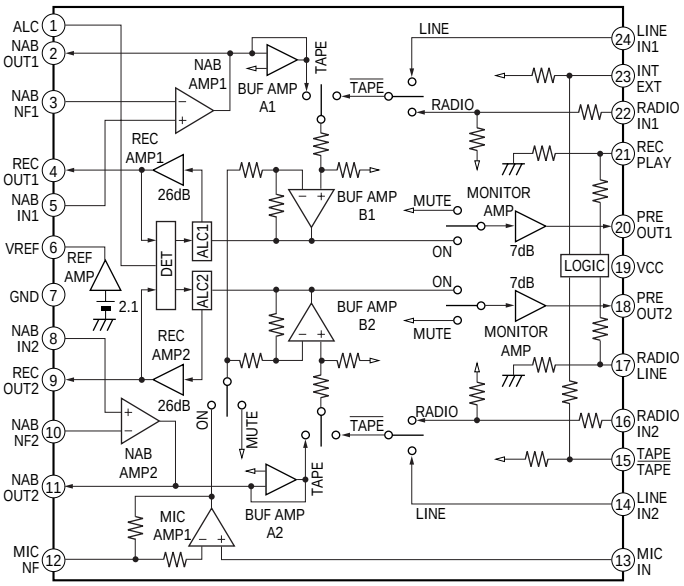
IC1 TA2008AN



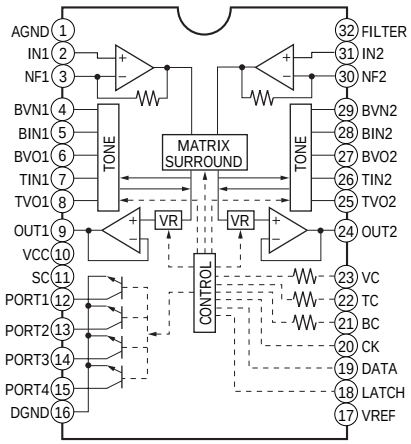
IC2 BU2615S



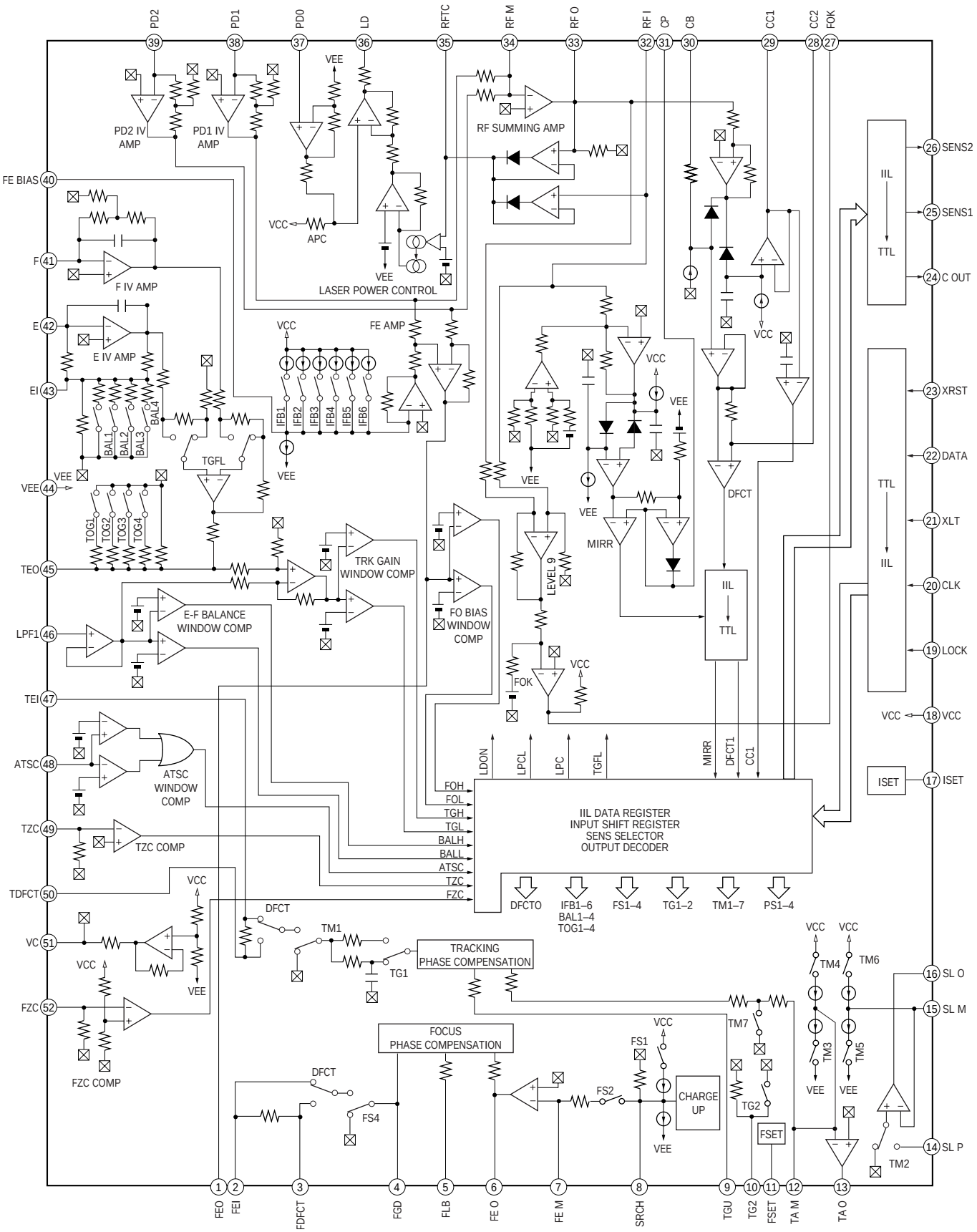
IC301 TA2068N



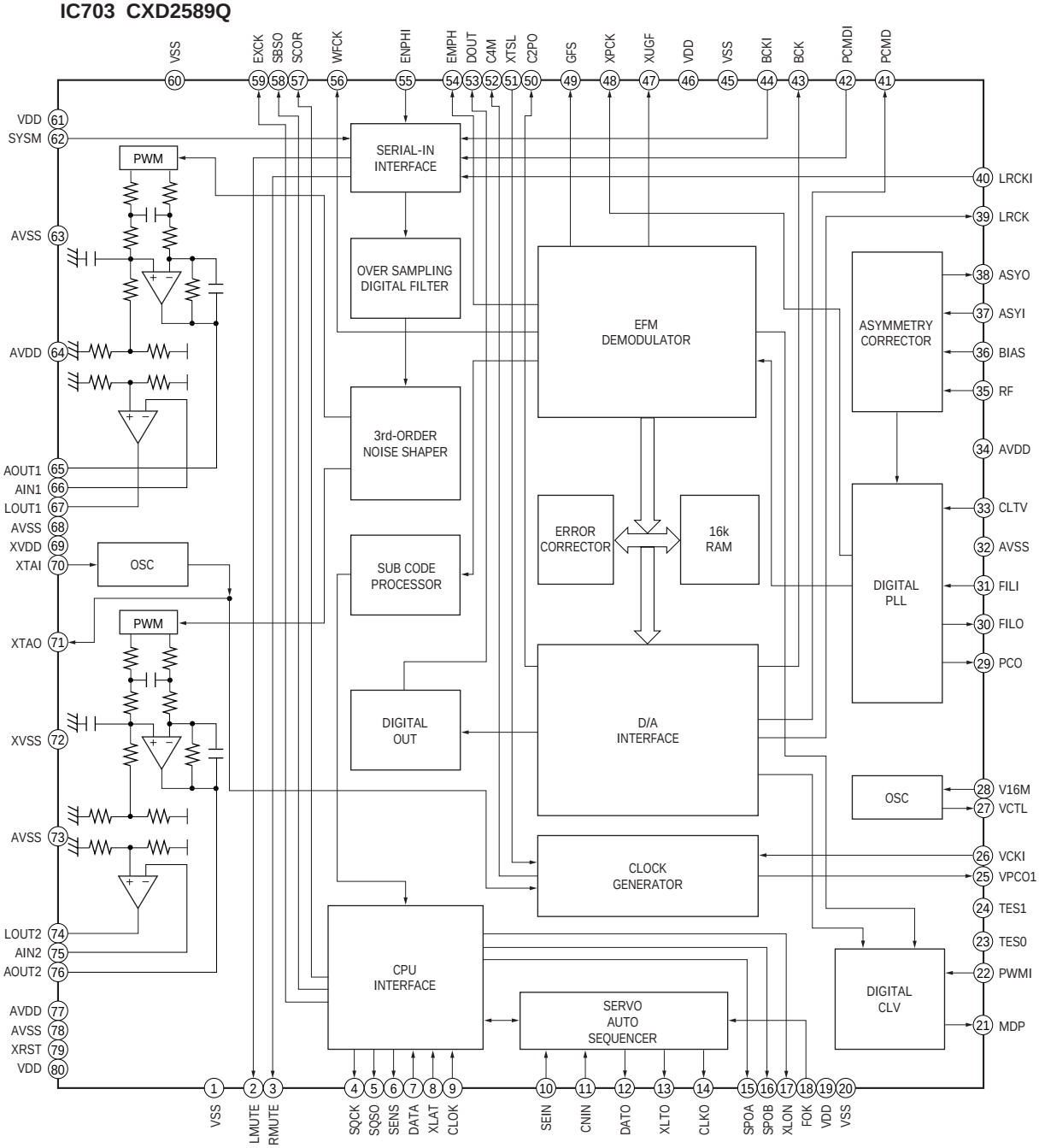
IC302 BH3854AFS



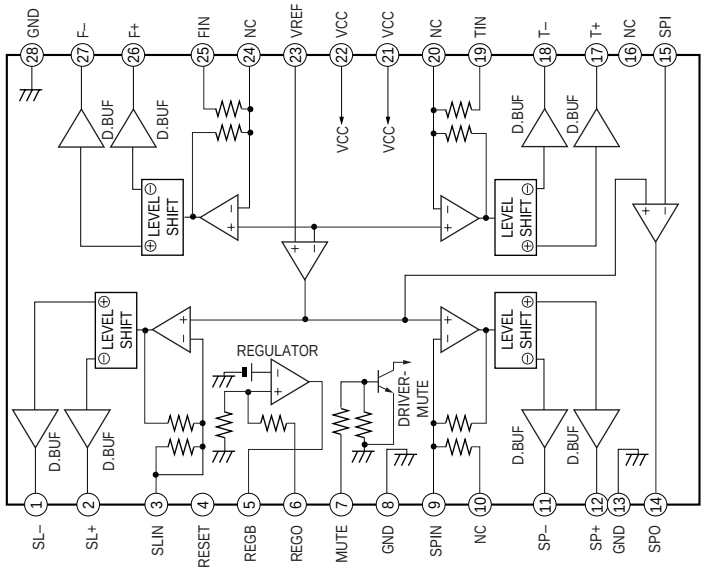
IC701 CXA1992BR



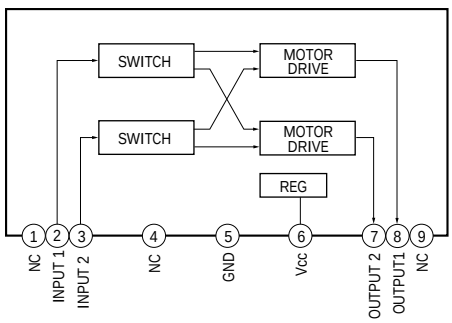
IC703 CXD2589Q



IC702 BA6898FP



IC651 BA6208

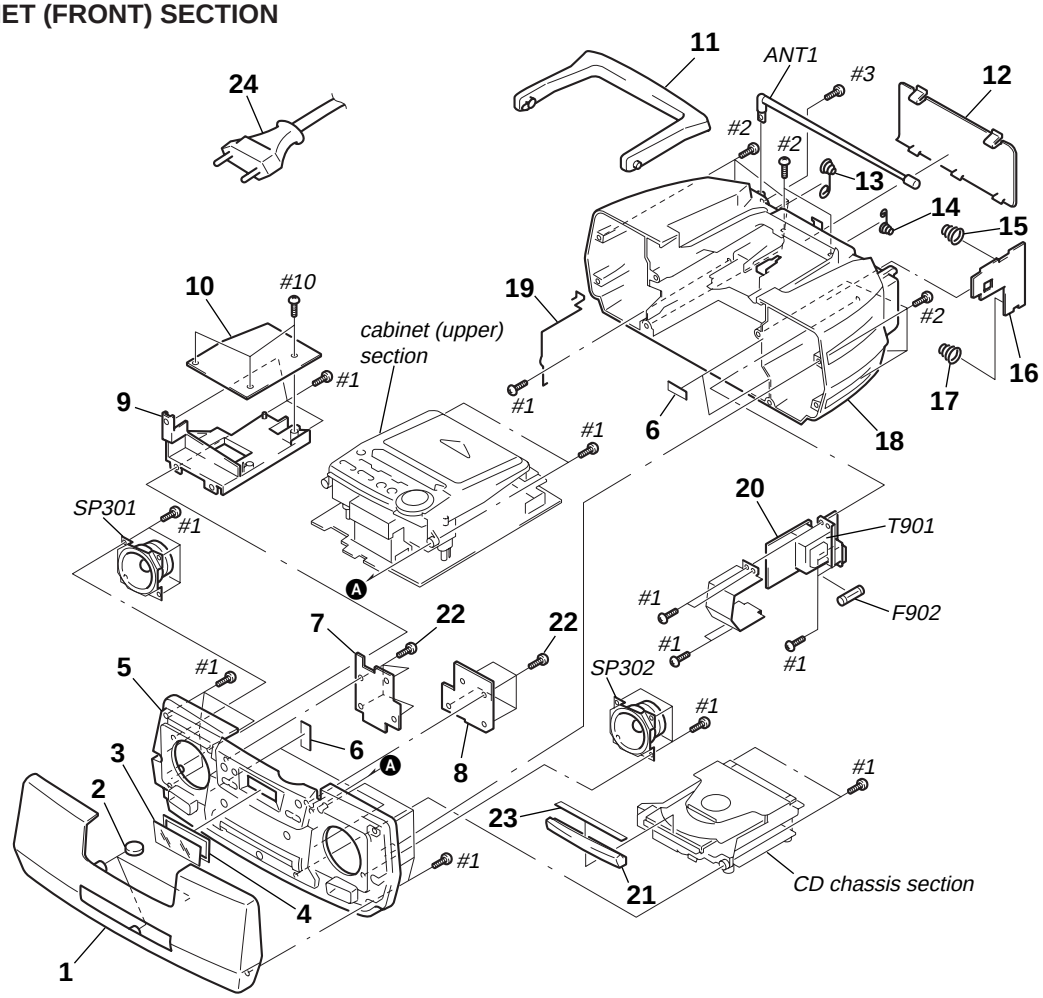


SECTION 6
EXPLODED VIEWS

NOTE:
- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Abbreviation
  CET : East European & CIS model
- -XX and -X mean standardized parts, so they may have some difference from the original one.
- Color Indication of Appearance Parts
  Example :
  KNOB, BALANCE (WHITE) ... (RED)
  ↑ ↑
  Parts Color Cabinet's Color
- Accessories and packing materials and hardware (#mark) list are given in the last of this parts list.

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

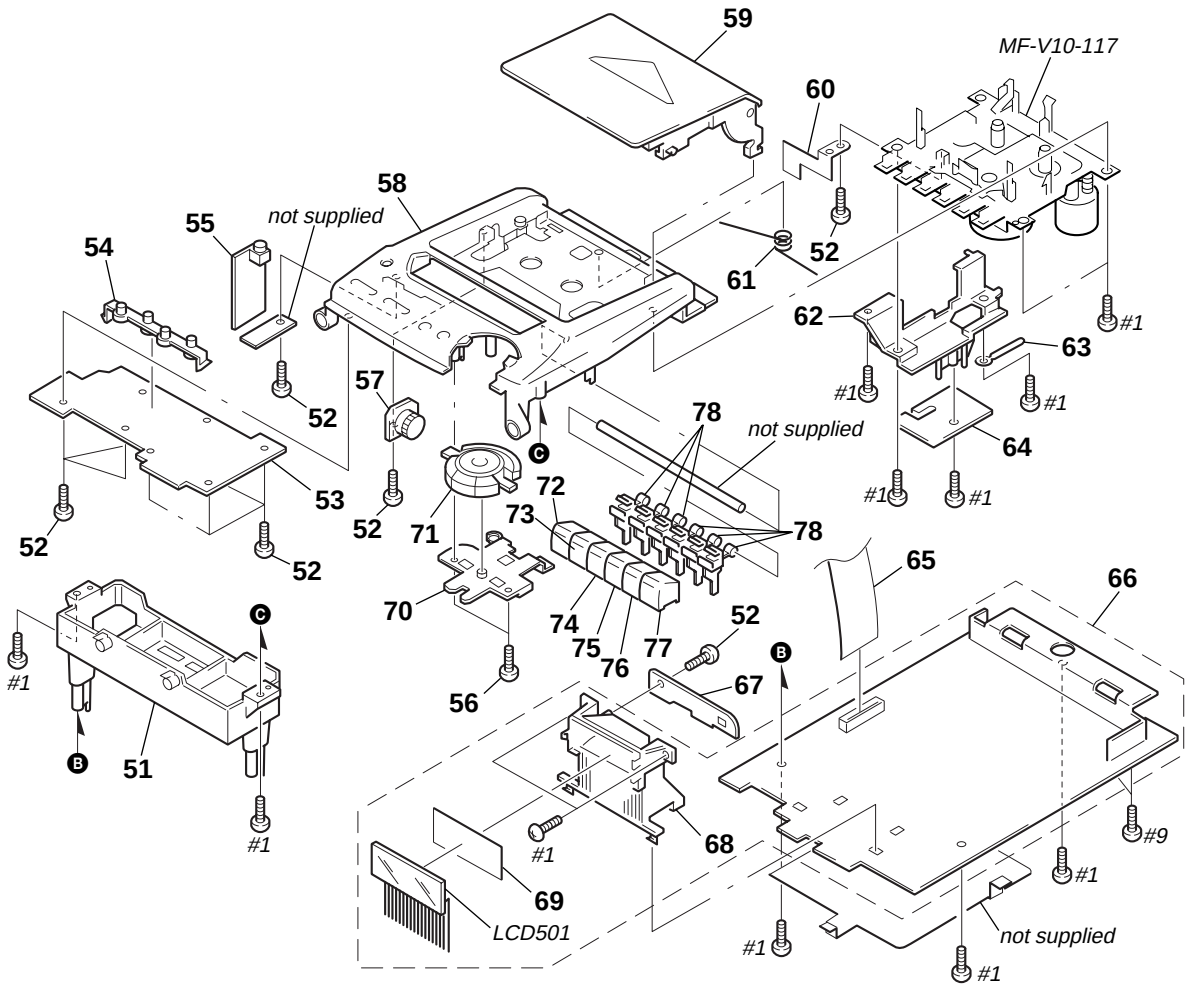
6-1. CABINET (FRONT) SECTION



Ref. No.	Part No.	Description	Remark
1	X-3376-102-1	PANEL (FRONT) ASSY (BLACK) (S47L)	
1	X-3376-105-1	PANEL (FRONT) ASSY (BLUE) (S47L)	
1	X-3376-106-1	PANEL (FRONT) ASSY (ORANGE) (S47L)	
1	X-3376-251-1	PANEL (FRONT) ASSY (DARK BLUE) (S45L)	
2	4-212-330-01	BUSHING	
3	3-028-128-01	WINDOW (LCD)	
* 4	3-028-140-01	SHEET, ADHESIVE	
5	X-3376-252-1	CABINET (FRONT) ASSY (S45L)	
5	X-3376-501-1	CABINET (FRONT) ASSY (S47L)	
6	3-831-441-99	CUSHION, SPEAKER	
* 7	1-671-052-11	SW (L) BOARD	
* 8	1-671-051-11	SW (R) BOARD	
* 9	3-028-107-01	CHASSIS (TU)	
* 10	A-3321-500-A	TUNER BOARD, COMPLETE	
11	3-028-168-01	HANDLE	
12	4-982-685-01	LID, BATTERY CASE	
13	3-029-701-01	SPRING (+-), TERMINAL COIL	
14	3-028-157-01	TERMINAL (S) (+.-), BATT	

Ref. No.	Part No.	Description	Remark
15	3-028-154-01	TERMINAL (-), BATT	
* 16	1-671-053-11	BATT BOARD	
17	3-028-156-01	TERMINAL (S) (-), BATT	
18	3-028-105-01	CABINET (REAR) (S47L)	
18	3-028-105-31	CABINET (REAR) (S45L)	
18	3-028-105-41	CABINET (REAR) (CET)	
19	3-028-134-01	TERMINAL, ANTENNA	
* 20	1-671-049-11	POWER BOARD	
21	3-028-153-01	LID (CD)	
22	4-951-620-01	SCREW (2.6X8), +BVTP	
23	3-030-742-01	COVER, CD LID	
⚠ 24	1-769-412-11	CORD, POWER	
ANT1	1-501-480-11	ANTENNA, TELESCOPIC	
⚠ F902	1-532-465-51	FUSE, TIME-LAG (T3.15A/250V)	
SP301	1-529-131-11	SPEAKER (L-CH)	
SP302	1-529-131-11	SPEAKER (R-CH)	
⚠ T901	1-433-422-11	TRANSFORMER, POWER	

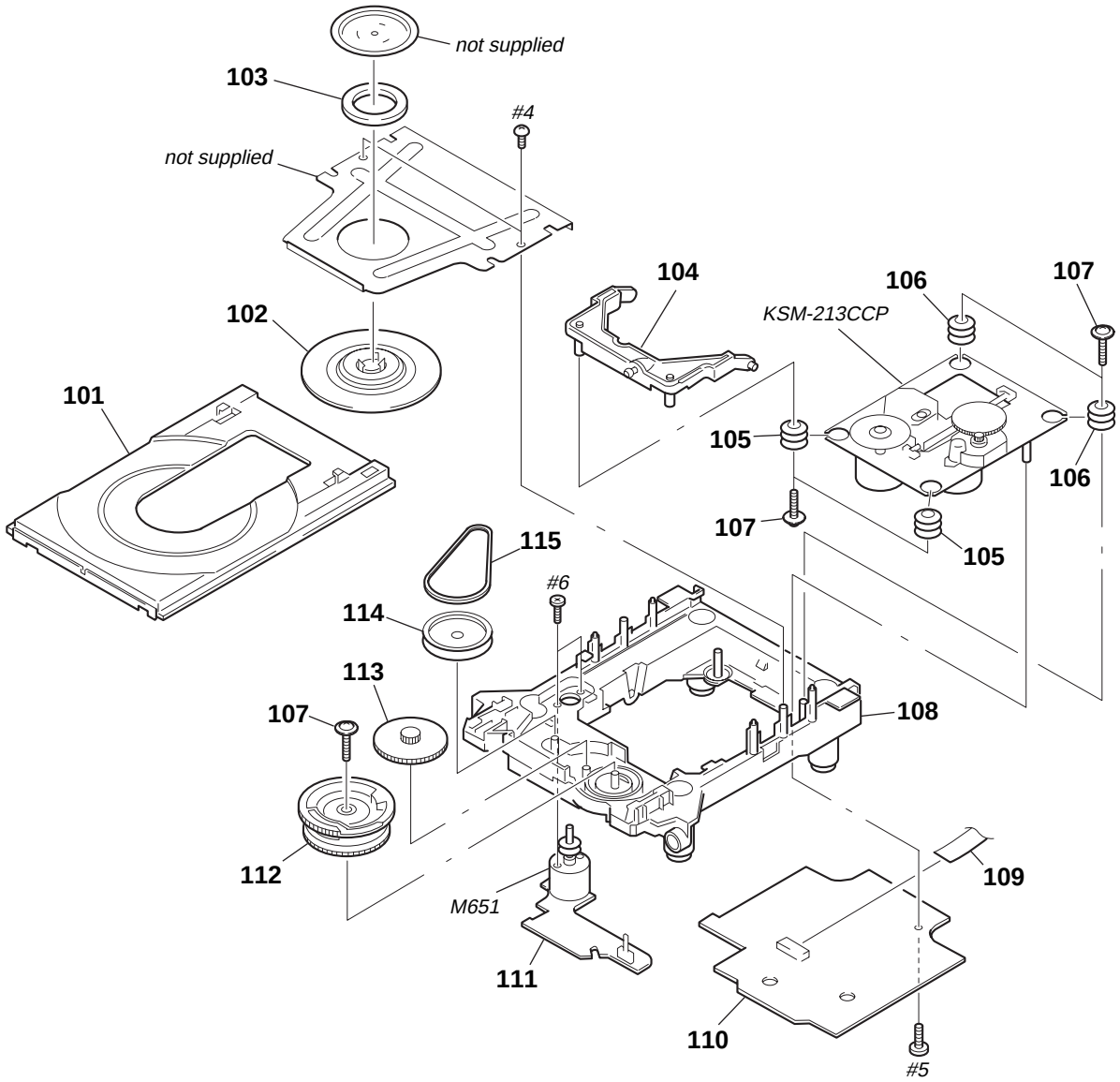
6-2. CABINET (UPPER) SECTION



Ref. No.	Part No.	Description	Remark
* 51	3-028-121-01	CHASSIS (PWB)	
52	4-951-620-01	SCREW (2.6X8), +BVTP	
* 53	1-671-050-11	SW (TOP) BOARD	
54	3-028-125-01	HOLDER (LED)	
* 55	1-671-044-11	HEADPHONE BOARD	
56	4-951-620-11	SCREW (2.6X10), +BVTP	
57	3-922-112-21	DAMPER	
58	X-3376-264-1	CABINET (TOP) ASSY	
59	X-3376-101-1	HOLDER (CASSETTE) ASSY	
60	3-028-132-01	LEVER (REC)	
61	3-028-127-01	SPRING (CASSETTE)	
* 62	3-028-122-01	CHASSIS (REC)	
* 63	3-703-150-11	CLAMP	
* 64	1-671-043-11	RECORD/PLAYBACK SWITCH BOARD	
65	1-783-889-11	WIRE, PARALLEL (20 CORE)	

Ref. No.	Part No.	Description	Remark
* 66	A-3321-506-A	MAIN BOARD, COMPLETE (S47L)	
* 66	A-3321-624-A	MAIN BOARD, COMPLETE (S45L)	
* 67	1-671-045-11	LAMP BOARD	
68	3-028-124-01	HOLDER (LCD)	
69	3-028-133-01	SHEET, DIFFUSION	
* 70	3-028-117-01	CHASSIS (BUTTON)	
71	X-3376-496-1	BUTTON (CD) ASSY	
72	3-028-115-01	BUTTON (MD), REC	
73	3-028-114-01	BUTTON (MD), PLAY	
74	3-028-113-01	BUTTON (MD), REW	
75	3-028-112-01	BUTTON (MD), FF	
76	3-028-111-01	BUTTON (MD), EJECT	
77	3-028-110-01	BUTTON (MD), PAUSE	
78	3-028-109-01	LEVER (MD)	
LCD501	1-803-275-11	DISPLAY PANEL, LIQUID CRYSTAL	

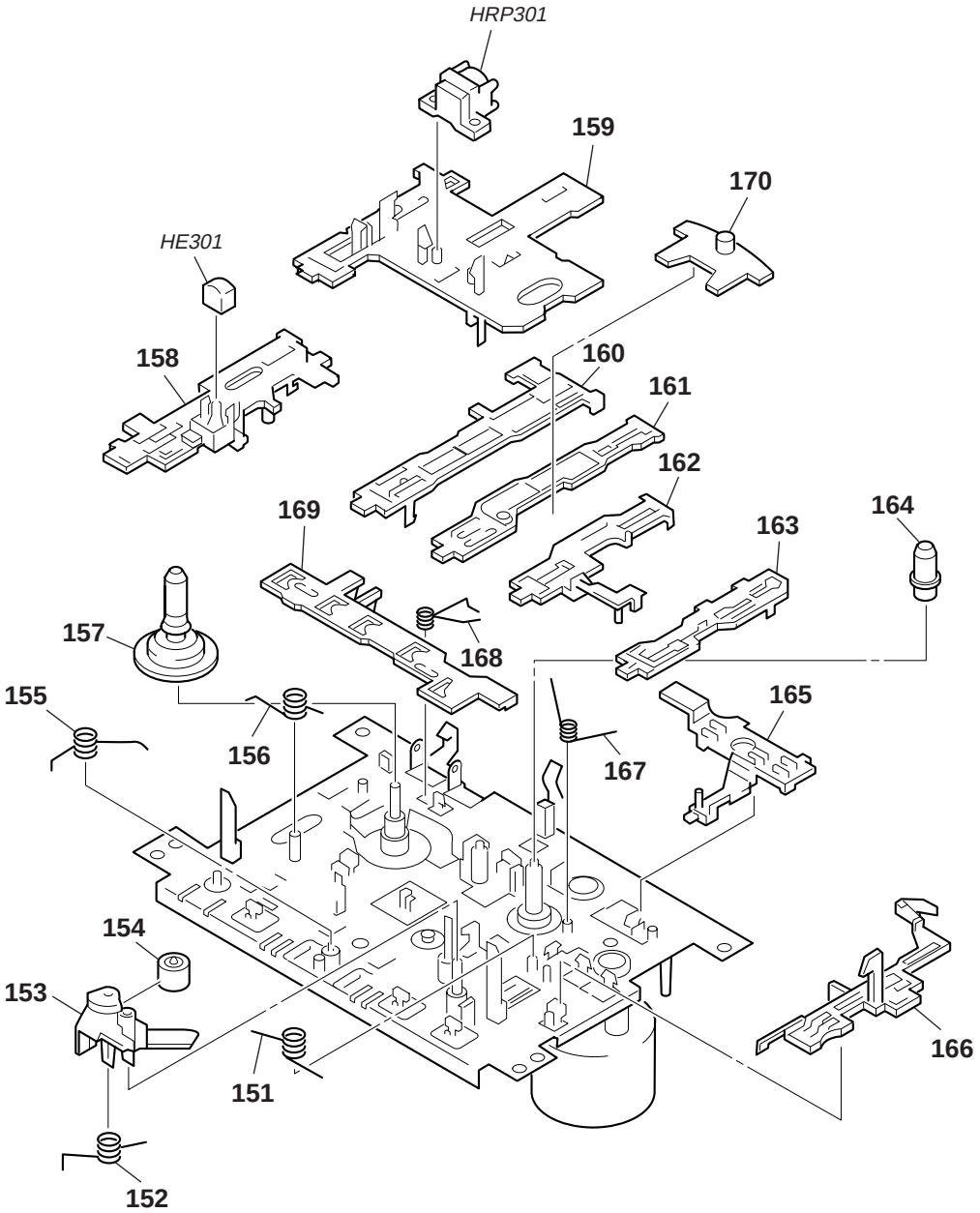
6-3. CD CHASSIS SECTION



Ref. No.	Part No.	Description	Remark
101	3-028-010-01	TRAY	
102	3-028-019-01	PLATE, CHUCK	
103	1-452-899-21	MAGNET	
104	3-028-011-01	ARM	
105	3-910-095-31	RUBBER, VIBRATION PROOF	
106	3-931-379-01	RUBBER, VIBRATION PROOF	
107	3-921-725-01	SCREW (2.6X10), +PWH	
* 108	3-028-009-01	CHASSIS	

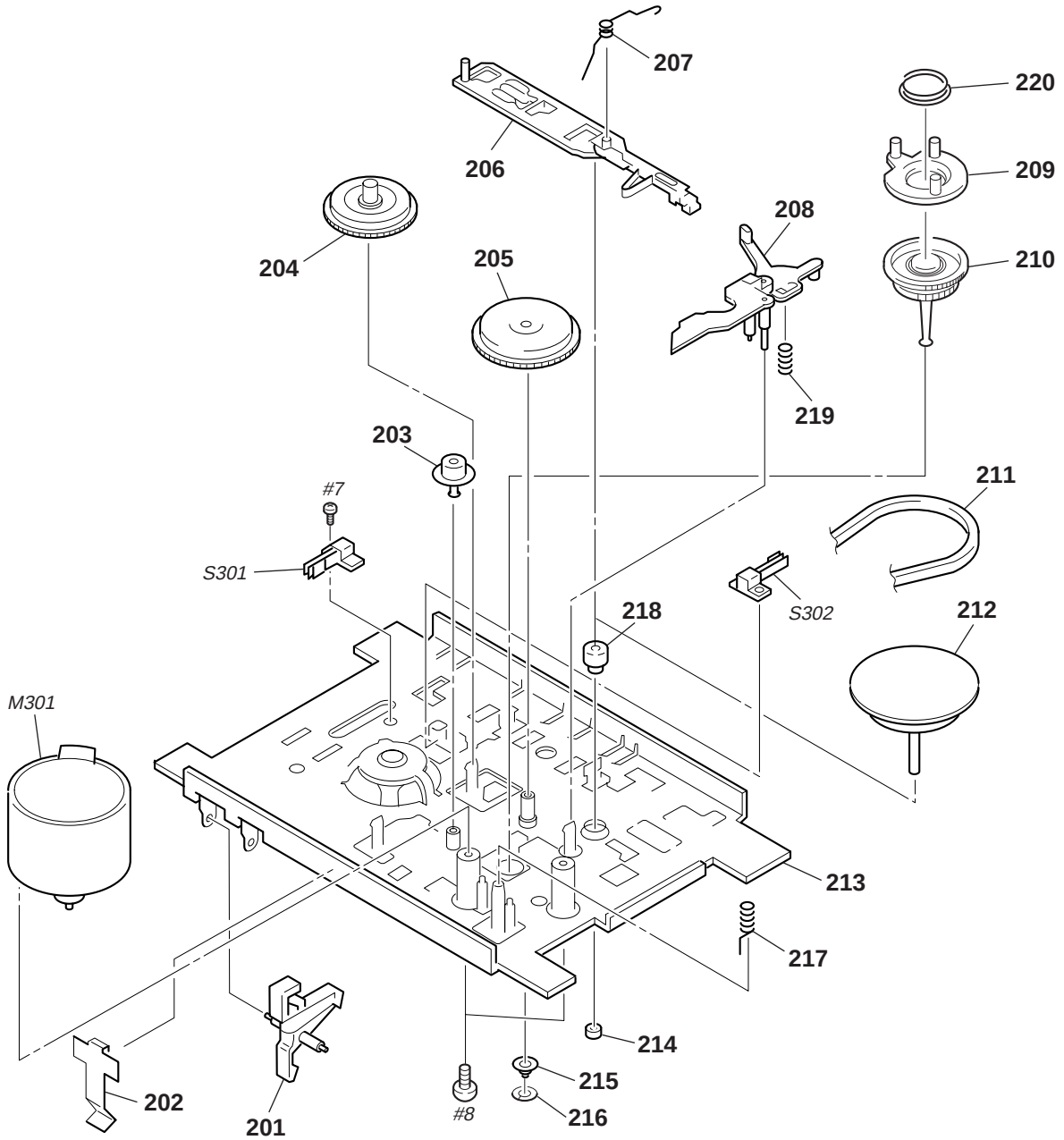
Ref. No.	Part No.	Description	Remark
109	1-783-888-11	WIRE, PARALLEL (16 CORE)	
* 110	A-3321-508-A	CD BOARD, COMPLETE	
* 111	1-671-072-11	LOADING BOARD	
112	3-028-013-01	GEAR, DRIVE	
113	3-028-014-01	GEAR	
114	3-028-015-01	PULLEY	
115	3-933-020-01	BELT	
M651	A-3320-538-A	MOTOR ASSY, LOADING	

6-4. TAPE MECHANISM DECK SECTION-1 (MF-V10-117)



Ref. No.	Part No.	Description	Remark
151	3-933-010-01	SPRING (S/P), TORSION	
152	3-933-025-01	SPRING (P), TORSION	
153	3-933-026-01	LEVER (P)	
154	3-933-024-01	ROLLER, PINCH	
155	3-933-019-01	SPRING (F/R), TORSION	
156	3-933-028-01	SPRING (FWD), TORSION	
157	3-933-016-01	GEAR (S REEL)	
158	3-008-590-01	SLIDER (REC)	
159	3-008-592-01	BASE (H), HEAD	
* 160	3-008-588-01	SLIDER (REW)	
* 161	3-008-589-13	SLIDER (FF)	
* 162	3-008-587-01	SLIDER (STOP)	
* 163	3-008-591-01	SLIDER (PAUSE)	
164	3-933-004-01	CLAW, REEL	
* 165	3-933-021-01	SLIDER (FRP)	
* 166	3-933-006-01	SLIDER (EJECT)	
167	3-934-833-01	SPRING (FRP)	
168	3-022-794-02	SPRING (BT)	
169	3-933-007-01	PLATE, LOCK	
* 170	3-012-114-01	LEVER (FR)	
HE301	1-543-876-11	HEAD (ERASE)	
HRP301	1-500-454-11	HEAD, MAGNETIC (RECORD/PLAYBACK)	

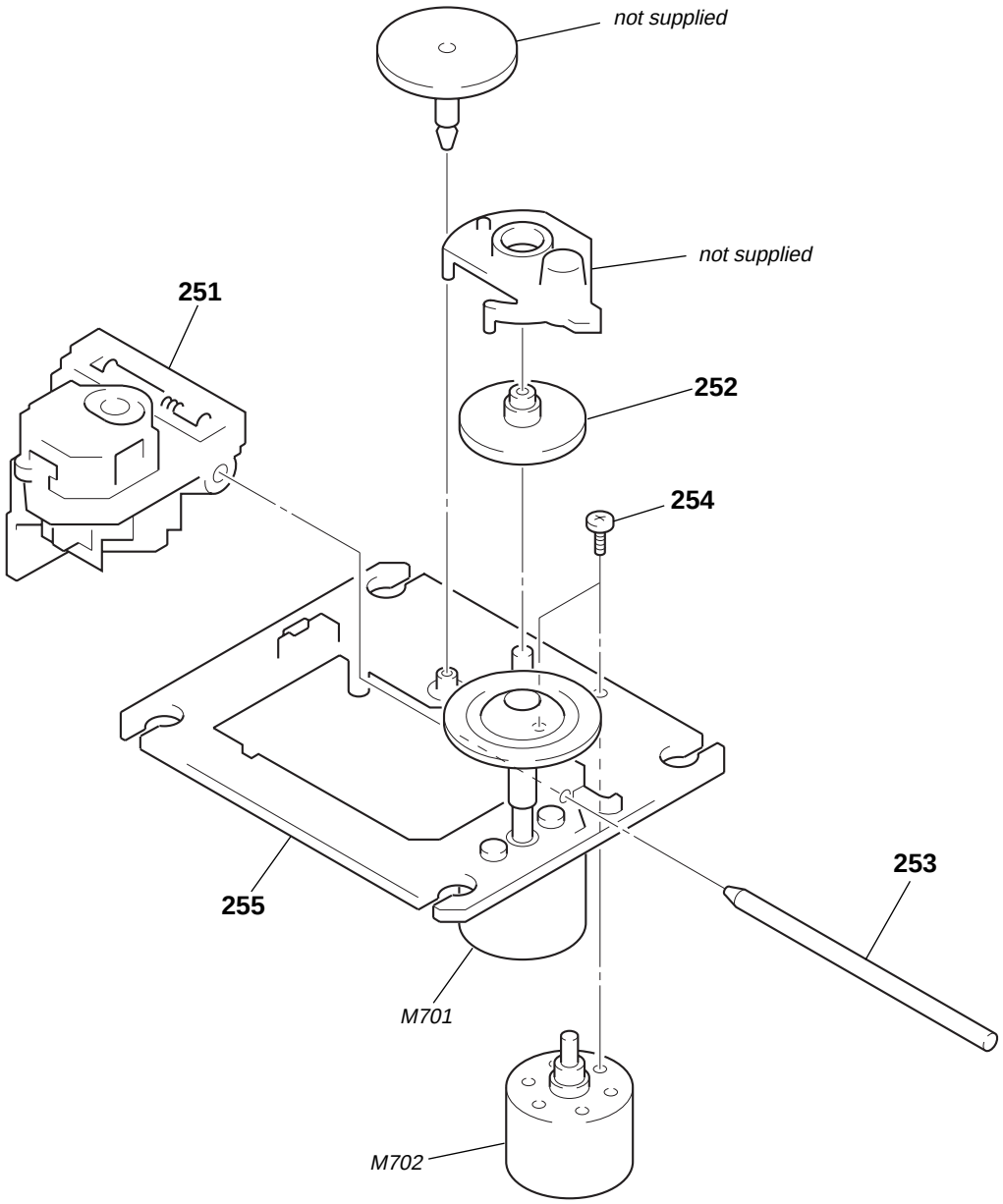
6-5. TAPE MECHANISM DECK SECTION-2 (MF-V10-117)



Ref. No.	Part No.	Description	Remark
201	3-933-029-01	LEVER, ERASING PREVENTION	
202	3-933-182-01	SPRING, CASSETTE	
203	3-932-995-01	GEAR (MID)	
204	X-3371-667-1	CLUTCH ASSY	
205	3-932-997-01	GEAR (CAM)	
* 206	3-932-999-01	SLIDER (SW)	
207	3-932-998-01	SPRING (GROUND), TORSION	
208	3-009-648-01	LEVER (S.OFF)	
209	3-936-438-01	LEVER (K)	
210	X-3373-572-1	REEL ASSY (N), T	
211	3-933-020-01	BELT	
212	X-3372-924-1	FLYWHEEL ASSY	

Ref. No.	Part No.	Description	Remark
213	3-932-993-01	CHASSIS, OUTSERT	
214	3-343-358-01	RING, RETAINING	
215	3-933-005-01	SPRING (CAM), COMPRESSION	
216	3-016-349-01	WASHER	
217	3-937-760-01	SPRING (GROUND), COMPRESSION	
218	3-934-336-01	BEARING	
219	3-939-383-02	SPRING, COMPRESSION	
220	3-009-650-02	SPRING (K), COMPRESSION	
M301	A-3320-446-A	MOTOR ASSY (CAPSTAN/REEL)	
S301	1-762-679-11	SWITCH, LEAF (TAPE PLAY)	
S302	1-771-059-11	SWITCH, LEAF (MOTOR ON/OFF)	

6-6. OPTICAL PICK-UP SECTION (KSM-213CCP)



The components identified by mark ⚠ or dotted line with mark. ⚠ are cr itical for saf ety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
⚠ 251	8-848-483-05	PICK-UP, OPTICAL KSS-213C/Q-RP	
252	2-627-003-02	GEAR (B) (RP)	
253	2-626-908-01	SHAFT, SLED	
254	3-713-786-51	SCREW +P 2X3	
255	X-2646-381-1	CHASSIS ASSY (MB) (RP), MOTOR (SPINDLE) (INCLUDING M701)	
M702	X-2625-769-1	GEAR ASSY (MB), MOTOR (SLED)	

BATT CD

SECTION 7
ELECTRICAL PARTS LIST

NOTE:
- Due to standardization, replacements in the par ts list ma y be diff erent from the par ts specified in the diag rams or the components used on the set.
- -XX and -X mean standardized parts, so the y ma y ha ve some diff erence from the original one.
- RESIST ORS
  All resistors are in ohms.
  METAL:Metal-film resistor .
  METAL OXIDE: Metal o xide-film resistor .
  F:nonflammable
- Items mar ked "*" are not stoc ked since the y are seldom required f or routine ser vice. Some delay should be anticipated when ordering these items.
- SEMICONDUCT ORS
  In each case , u : µ, for e xample:
  uA.. : µA.. uPA.. : µPA..
  uPB.. : µPB.. uPC.. : µPC.. uPD.. : µPD..
- CAPACITORS
  uF : µF
- COILS
  uH : µH

The components identified b y mark ⚠ or dotted line with mark. ⚠ are cr itical for saf ety. Replace only with part number specified.

When indicating parts by reference number , please include the board.

- Abbre viation
  CET : East European & CIS model

Ref. No.	Part No.	Description			Remark
*	1-671-053-11	BATT BOARD			
		**********			
	3-028-154-01	TERMINAL (-), BATT			
	3-028-156-01	TERMINAL (S) (-), BATT			
		< CONNECTOR >			
* CNP901	1-580-155-11	PIN, CONNECTOR (PC BOARD) 3P			
**********					
*	A-3321-508-A	CD BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C701	1-162-600-11	CERAMIC	0.0047uF	20%	16V
C702	1-162-306-11	CERAMIC	0.01uF	20%	16V
C703	1-162-305-11	CERAMIC	0.0068uF	20%	16V
C704	1-137-374-11	FILM	0.047uF	5%	50V
C705	1-162-306-11	CERAMIC	0.01uF	20%	16V
C706	1-124-443-00	ELECT	100uF	20%	10V
C707	1-161-494-00	CERAMIC	0.022uF		25V
C708	1-136-165-00	FILM	0.1uF	5%	50V
C709	1-136-165-00	FILM	0.1uF	5%	50V
C710	1-162-302-11	CERAMIC	0.0022uF	20%	16V
C711	1-162-203-31	CERAMIC	15PF	5%	50V
C712	1-162-294-31	CERAMIC	0.001uF	10%	50V
C713	1-136-165-00	FILM	0.1uF	5%	50V
C714	1-136-165-00	FILM	0.1uF	5%	50V
C715	1-126-233-11	ELECT	22uF	20%	50V
C716	1-136-165-00	FILM	0.1uF	5%	50V
C717	1-136-153-00	FILM	0.01uF	5%	50V
C718	1-131-375-00	TANTALUM	4.7uF	10%	10V
C719	1-104-664-11	ELECT	47uF	20%	10V
C720	1-162-306-11	CERAMIC	0.01uF	20%	16V
C721	1-136-159-00	FILM	0.033uF	5%	50V
C722	1-130-489-00	MYLAR	0.033uF	5%	50V
C723	1-162-306-11	CERAMIC	0.01uF	20%	16V
C724	1-130-489-00	MYLAR	0.033uF	5%	50V
C725	1-137-440-11	FILM	0.018uF	5%	50V
C726	1-162-306-11	CERAMIC	0.01uF	20%	16V
C727	1-162-199-31	CERAMIC	10PF	5%	50V
C728	1-124-443-00	ELECT	100uF	20%	10V
C729	1-126-962-11	ELECT	3.3uF	20%	50V
C730	1-137-375-11	FILM	0.068uF	5%	50V
C731	1-162-215-31	CERAMIC	47PF	5%	50V
C732	1-162-306-11	CERAMIC	0.01uF	20%	16V
C735	1-162-305-11	CERAMIC	0.0068uF	20%	16V
C736	1-124-472-11	ELECT	470uF	20%	10V
C737	1-162-306-11	CERAMIC	0.01uF	20%	16V
C738	1-124-443-00	ELECT	100uF	20%	10V
C740	1-137-375-11	FILM	0.068uF	5%	50V
C741	1-162-306-11	CERAMIC	0.01uF	20%	16V
C742	1-162-282-31	CERAMIC	100PF	10%	50V
C744	1-162-282-31	CERAMIC	100PF	10%	50V
		< CONNECTOR >			
* CNP701	1-779-466-11	CONNECTOR, FFC/FPC 16P			
CNP702	1-770-527-31	CONNECTOR, FFC/FPC 20P			
		< IC >			
IC701	8-752-082-14	IC CXA1992BR			
IC702	8-759-473-42	IC BA6898FP			
		< TRANSISTOR >			
Q701	8-729-037-13	TRANSISTOR KTA1271Y			
		< RESISTOR >			
R701	1-249-441-11	CARBON	100K	5%	1/4W
R702	1-249-439-11	CARBON	68K	5%	1/4W
R703	1-249-439-11	CARBON	68K	5%	1/4W
R704	1-249-439-11	CARBON	68K	5%	1/4W
R705	1-249-439-11	CARBON	68K	5%	1/4W
R706	1-249-441-11	CARBON	100K	5%	1/4W
R707	1-247-887-00	CARBON	220K	5%	1/4W
R709	1-247-883-00	CARBON	150K	5%	1/4W
R710	1-247-885-00	CARBON	180K	5%	1/4W
R711	1-247-883-00	CARBON	150K	5%	1/4W
R712	1-247-891-00	CARBON	330K	5%	1/4W
R714	1-249-428-11	CARBON	8.2K	5%	1/4W
R715	1-249-429-11	CARBON	10K	5%	1/4W
R716	1-249-429-11	CARBON	10K	5%	1/4W
R717	1-247-903-00	CARBON	1M	5%	1/4W
R718	1-247-899-11	CARBON	680K	5%	1/4W
R719	1-249-393-11	CARBON	10	5%	1/4W
R720	1-249-430-11	CARBON	12K	5%	1/4W
R721	1-247-862-11	CARBON	20K	5%	1/4W
R722	1-249-441-11	CARBON	100K	5%	1/4W
R723	1-247-896-11	CARBON	510K	5%	1/4W
R724	1-249-439-11	CARBON	68K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R725	1-247-883-00	CARBON	150K	5%	1/4W
R726	1-247-876-11	CARBON	75K	5%	1/4W
R727	1-249-437-11	CARBON	47K	5%	1/4W
R728	1-249-441-11	CARBON	100K	5%	1/4W
R729	1-249-430-11	CARBON	12K	5%	1/4W
R731	1-247-863-00	CARBON	22K	5%	1/4W
R733	1-249-417-11	CARBON	1K	5%	1/4W
R734	1-247-843-11	CARBON	3.3K	5%	1/4W
R736	1-247-863-00	CARBON	22K	5%	1/4W
R738	1-249-435-11	CARBON	33K	5%	1/4W
R739	1-249-417-11	CARBON	1K	5%	1/4W
R740	1-249-417-11	CARBON	1K	5%	1/4W
R741	1-249-417-11	CARBON	1K	5%	1/4W
R742	1-249-417-11	CARBON	1K	5%	1/4W
R743	1-249-417-11	CARBON	1K	5%	1/4W
R744	1-249-417-11	CARBON	1K	5%	1/4W
R745	1-249-417-11	CARBON	1K	5%	1/4W
R746	1-249-417-11	CARBON	1K	5%	1/4W
R747	1-249-437-11	CARBON	47K	5%	1/4W
		< SWITCH >			
S701	1-762-812-11	SWITCH, LEAF (LIMIT)			
**********					
*	1-671-044-11	HEADPHONE BOARD			
		**********			
		< CAPACITOR >			
C158	1-124-443-00	ELECT	100uF	20%	10V
C258	1-124-443-00	ELECT	100uF	20%	10V
		< CONNECTOR >			
* CNP307	1-580-165-11	PIN, CONNECTOR (PC BOARD) 4P			
		< JACK >			
J301	1-779-050-11	JACK (🎧)			
		< CABLE HOLDER >			
* KH306	1-565-386-11	HOLDER, CABLE 5P			
		< COIL >			
L151	1-410-324-11	INDUCTOR	4.7uH		
L251	1-410-324-11	INDUCTOR	4.7uH		
L351	1-410-324-11	INDUCTOR	4.7uH		
		< RESISTOR >			
R157	1-249-417-11	CARBON	1K	5%	1/4W
R158	1-247-807-11	CARBON	100	5%	1/4W
R257	1-249-417-11	CARBON	1K	5%	1/4W
R258	1-247-807-31	CARBON	100	5%	1/4W
**********					

Ref. No.	Part No.	Description			Remark
*	1-671-045-11	LAMP BOARD			
		**********			
		< CONNECTOR >			
* CNP308	1-580-154-11	PIN, CONNECTOR (PC BOARD) 2P			
		< PILOT LAMP >			
PL301	1-517-474-31	LAMP, PILOT (8V/75mA)			
PL302	1-517-474-31	LAMP, PILOT (8V/75mA)			
**********					
*	1-671-072-11	LOADING BOARD			
		**********			
		< CAPACITOR >			
C651	1-104-664-11	ELECT	47uF	20%	10V
		< CONNECTOR >			
* CN651	1-580-167-11	PIN, CONNECTOR (PC BOARD) 6P			
		< IC >			
IC651	8-759-962-08	IC BA6208			
		< SWITCH >			
S651	1-771-489-11	SWITCH, LEVER SLIDE (LOADING IN/OUT DET)			
**********					
*	A-3321-506-A	MAIN BOARD, COMPLETE (S47L)			
*	A-3321-624-A	MAIN BOARD, COMPLETE (S45L)			
		**********			
	1-783-889-11	WIRE, PARALLEL (20 CORE)			
	3-028-124-01	HOLDER (LCD)			
	3-028-133-01	SHEET, DIFFUSION			
	4-951-620-01	SCREW (2.6X8), +BVTP			
		< CAPACITOR >			
C101	1-162-301-11	CERAMIC	0.0015uF	20%	16V
C102	1-104-664-11	ELECT	47uF	20%	10V
C103	1-161-020-11	CERAMIC	0.039uF	10%	16V
C104	1-162-302-11	CERAMIC	0.0022uF	20%	16V
C105	1-162-215-31	CERAMIC	47PF	5%	50V
C107	1-124-907-11	ELECT	10uF	20%	50V
C108	1-162-282-31	CERAMIC	100PF	10%	50V
C141	1-124-907-11	ELECT	10uF	20%	50V
C142	1-162-305-11	CERAMIC	0.0068uF	20%	16V
C143	1-124-907-11	ELECT	10uF	20%	50V
C144	1-162-849-11	CERAMIC	0.068uF	10%	16V
C145	1-162-849-11	CERAMIC	0.068uF	10%	16V
C146	1-161-053-00	CERAMIC	0.015uF	10%	16V
C147	1-124-903-11	ELECT	1uF	20%	50V
C150	1-104-664-11	ELECT	47uF	20%	10V
C151	1-124-443-00	ELECT	100uF	20%	10V

MAIN

Ref. No.	Part No.	Description			Remark
C152	1-162-301-11	CERAMIC	0.0015uF	20%	16V
C153	1-104-664-11	ELECT	47uF	20%	10V
C154	1-124-443-00	ELECT	100uF	20%	10V
C155	1-130-495-00	MYLAR	0.1uF	5%	50V
C156	1-124-443-00	ELECT	100uF	20%	10V
C157	1-130-495-00	MYLAR	0.1uF	5%	50V
C159	1-124-907-11	ELECT	10uF	20%	50V
C201	1-162-301-11	CERAMIC	0.0015uF	20%	16V
C202	1-104-664-11	ELECT	47uF	20%	10V
C203	1-161-020-11	CERAMIC	0.039uF	10%	16V
C204	1-162-302-11	CERAMIC	0.0022uF	20%	16V
C205	1-162-215-31	CERAMIC	47PF	5%	50V
C207	1-124-907-11	ELECT	10uF	20%	50V
C208	1-162-282-31	CERAMIC	100PF	10%	50V
C241	1-124-907-11	ELECT	10uF	20%	50V
C242	1-162-305-11	CERAMIC	0.0068uF	20%	16V
C243	1-124-907-11	ELECT	10uF	20%	50V
C244	1-162-849-11	CERAMIC	0.068uF	10%	16V
C245	1-162-849-11	CERAMIC	0.068uF	10%	16V
C246	1-161-053-00	CERAMIC	0.015uF	10%	16V
C247	1-124-903-11	ELECT	1uF	20%	50V
C250	1-104-664-11	ELECT	47uF	20%	10V
C251	1-124-443-00	ELECT	100uF	20%	10V
C252	1-162-301-11	CERAMIC	0.0015uF	20%	16V
C253	1-104-664-11	ELECT	47uF	20%	10V
C254	1-124-443-00	ELECT	100uF	20%	10V
C255	1-130-495-00	MYLAR	0.1uF	5%	50V
C256	1-124-443-00	ELECT	100uF	20%	10V
C257	1-130-495-00	MYLAR	0.1uF	5%	50V
C259	1-124-907-11	ELECT	10uF	20%	50V
C301	1-124-443-00	ELECT	100uF	20%	10V
C302	1-104-666-11	ELECT	220uF	20%	10V
C303	1-124-443-00	ELECT	100uF	20%	10V
C304	1-161-494-00	CERAMIC	0.022uF		25V
C305	1-104-664-11	ELECT	47uF	20%	10V
C306	1-162-294-31	CERAMIC	0.001uF	10%	50V
C307	1-124-907-11	ELECT	10uF	20%	50V
C308	1-130-481-00	MYLAR	0.0068uF	5%	50V
C309	1-162-301-11	CERAMIC	0.0015uF	20%	16V
C310	1-162-294-31	CERAMIC	0.001uF	10%	50V
C331	1-104-664-11	ELECT	47uF	20%	10V
C332	1-161-494-00	CERAMIC	0.022uF		25V
C333	1-104-664-11	ELECT	47uF	20%	10V
C334	1-124-903-11	ELECT	1uF	20%	50V
C335	1-126-963-11	ELECT	4.7uF	20%	50V
C336	1-126-961-11	ELECT	2.2uF	20%	50V
C337	1-126-963-11	ELECT	4.7uF	20%	50V
C338	1-124-443-00	ELECT	100uF	20%	10V
C339	1-161-494-00	CERAMIC	0.022uF		25V
C340	1-162-294-31	CERAMIC	0.001uF	10%	50V
C341	1-162-294-31	CERAMIC	0.001uF	10%	50V
C342	1-162-294-31	CERAMIC	0.001uF	10%	50V
C345	1-124-903-11	ELECT	1uF	20%	50V

Ref. No.	Part No.	Description			Remark
C350	1-104-666-11	ELECT	220uF	20%	16V
C351	1-126-937-11	ELECT	4700uF	20%	16V
C352	1-162-306-11	CERAMIC	0.01uF	20%	16V
C353	1-162-306-11	CERAMIC	0.01uF	20%	16V
C355	1-124-443-00	ELECT	100uF	20%	10V
C356	1-162-306-11	CERAMIC	0.01uF	20%	16V
C358	1-124-442-00	ELECT	330uF	20%	6.3V
C359	1-162-306-11	CERAMIC	0.01uF	20%	16V
C360	1-124-444-11	ELECT	220uF	20%	50V
C362	1-124-907-11	ELECT	10uF	20%	50V
C363	1-124-907-11	ELECT	10uF	20%	50V
C364	1-162-294-31	CERAMIC	0.001uF	10%	50V
C366	1-101-005-00	CERAMIC	22000PF		50V
C367	1-162-306-11	CERAMIC	0.01uF	20%	16V
C368	1-164-159-21	CERAMIC	0.1uF		50V
C501	1-162-306-11	CERAMIC	0.01uF	20%	16V
C502	1-162-306-11	CERAMIC	0.01uF	20%	16V
C506	1-162-306-11	CERAMIC	0.01uF	20%	16V
C507	1-162-306-11	CERAMIC	0.01uF	20%	16V
C508	1-162-282-31	CERAMIC	100PF	10%	50V
C510	1-162-282-31	CERAMIC	100PF	10%	50V
C512	1-162-282-31	CERAMIC	100PF	10%	50V
C514	1-162-282-31	CERAMIC	100PF	10%	50V
C515	1-162-282-31	CERAMIC	100PF	10%	50V
C516	1-162-306-11	CERAMIC	0.01uF	20%	16V
C517	1-162-282-31	CERAMIC	100PF	10%	50V
C518	1-162-282-31	CERAMIC	100PF	10%	50V
C519	1-162-282-31	CERAMIC	100PF	10%	50V
C520	1-162-282-31	CERAMIC	100PF	10%	50V
C521	1-162-306-11	CERAMIC	0.01uF	20%	16V
C522	1-162-282-31	CERAMIC	100PF	10%	50V
C523	1-162-282-31	CERAMIC	100PF	10%	50V
C524	1-162-282-31	CERAMIC	100PF	10%	50V
C525	1-162-306-11	CERAMIC	0.01uF	20%	16V
C526	1-162-306-11	CERAMIC	0.01uF	20%	16V
C527	1-162-306-11	CERAMIC	0.01uF	20%	16V
C529	1-162-306-11	CERAMIC	0.01uF	20%	16V
C535	1-102-516-11	CERAMIC	27PF	5%	50V
C536	1-102-516-11	CERAMIC	27PF	5%	50V
C537	1-102-516-11	CERAMIC	27PF	5%	50V
C538	1-102-516-11	CERAMIC	27PF	5%	50V
C539	1-162-306-11	CERAMIC	0.01uF	20%	16V
C540	1-162-306-11	CERAMIC	0.01uF	20%	16V
C541	1-162-306-11	CERAMIC	0.01uF	20%	16V
C542	1-162-306-11	CERAMIC	0.01uF	20%	16V
C543	1-162-306-11	CERAMIC	0.01uF	20%	16V
C544	1-162-306-11	CERAMIC	0.01uF	20%	16V
C545	1-162-306-11	CERAMIC	0.01uF	20%	16V
C546	1-162-306-11	CERAMIC	0.01uF	20%	16V
C547	1-162-306-11	CERAMIC	0.01uF	20%	16V
C548	1-162-306-11	CERAMIC	0.01uF	20%	16V
C549	1-124-443-00	ELECT	100uF	20%	10V

Ref. No.	Part No.	Description			Remark
C550	1-162-306-11	CERAMIC	0.01uF	20%	16V
C551	1-102-516-11	CERAMIC	27PF	5%	50V
C552	1-102-516-11	CERAMIC	27PF	5%	50V
C553	1-162-306-11	CERAMIC	0.01uF	20%	16V
C554	1-162-306-11	CERAMIC	0.01uF	20%	16V
C555	1-162-306-11	CERAMIC	0.01uF	20%	16V
C556	1-162-306-11	CERAMIC	0.01uF	20%	16V
C557	1-162-306-11	CERAMIC	0.01uF	20%	16V
C558	1-162-306-11	CERAMIC	0.01uF	20%	16V
C559	1-162-306-11	CERAMIC	0.01uF	20%	16V
C560	1-162-306-11	CERAMIC	0.01uF	20%	16V
C561	1-124-443-00	ELECT	100uF	20%	10V
C562	1-162-306-11	CERAMIC	0.01uF	20%	16V
C563	1-124-903-11	ELECT	1uF	20%	50V
C564	1-124-907-11	ELECT	10uF	20%	50V
C566	1-162-294-31	CERAMIC	0.001uF	10%	50V
C567	1-162-294-31	CERAMIC	0.001uF	10%	50V
C568	1-162-294-31	CERAMIC	0.001uF	10%	50V
C569	1-162-306-11	CERAMIC	0.01uF	20%	16V
C570	1-162-294-31	CERAMIC	0.001uF	10%	50V
C571	1-162-306-11	CERAMIC	0.01uF	20%	16V (S45L)
C572	1-162-306-11	CERAMIC	0.01uF	20%	16V (S45L)
C573	1-162-294-31	CERAMIC	0.001uF	10%	50V
C602	1-104-664-11	ELECT	47uF	20%	10V (S47L)
C746	1-162-282-31	CERAMIC	100PF	10%	50V
C747	1-162-282-31	CERAMIC	100PF	10%	50V
C748	1-162-282-31	CERAMIC	100PF	10%	50V
C749	1-162-282-31	CERAMIC	100PF	10%	50V
C750	1-162-306-11	CERAMIC	0.01uF	20%	16V
C755	1-162-282-31	CERAMIC	100PF	10%	50V
C756	1-162-282-31	CERAMIC	100PF	10%	50V
C760	1-137-194-81	FILM	0.47uF	5%	50V
C761	1-102-516-11	CERAMIC	27PF	5%	50V
C763	1-162-290-31	CERAMIC	470PF	10%	50V
C764	1-102-516-11	CERAMIC	27PF	5%	50V
C765	1-162-286-21	CERAMIC	220PF	10%	50V
C766	1-162-306-11	CERAMIC	0.01uF	20%	16V
C767	1-162-282-31	CERAMIC	100PF	10%	50V
C768	1-162-306-11	CERAMIC	0.01uF	20%	16V
C769	1-136-169-00	FILM	0.22uF	5%	50V
C770	1-162-282-31	CERAMIC	100PF	10%	50V
C771	1-104-666-11	ELECT	220uF	20%	10V
C772	1-162-306-11	CERAMIC	0.01uF	20%	16V
C773	1-164-159-21	CERAMIC	0.1uF		50V
C774	1-162-306-11	CERAMIC	0.01uF	20%	16V
C775	1-162-306-11	CERAMIC	0.01uF	20%	16V
C776	1-162-306-11	CERAMIC	0.01uF	20%	16V
C777	1-162-294-31	CERAMIC	0.001uF	10%	50V
C780	1-162-284-31	CERAMIC	150PF	10%	50V
C781	1-162-292-31	CERAMIC	680PF	10%	50V
C782	1-124-907-11	ELECT	10uF	20%	50V
C783	1-162-294-31	CERAMIC	0.001uF	10%	50V
C790	1-162-284-31	CERAMIC	150PF	10%	50V
C791	1-162-292-31	CERAMIC	680PF	10%	50V
C792	1-124-907-11	ELECT	10uF	20%	50V
C793	1-162-294-31	CERAMIC	0.001uF	10%	50V

< CONNECTOR >

Ref. No.	Part No.	Description
CNP301	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P
CNP302	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P
* CNP303	1-580-158-11	PIN, CONNECTOR (PC BOARD) 6P
CNP305	1-506-986-11	PIN, CONNECTOR (PC BOARD) 4P
CNP306	1-506-987-11	PIN, CONNECTOR (PC BOARD) 5P
CNP501	1-784-231-12	SOCKET, CONNECTOR (PC BOARD) 10P
* CNP503	1-580-161-11	PIN, CONNECTOR (PC BOARD) 9P
CNP704	1-691-052-31	HOUSING, CONNECTOR 20P

< DIODE >

Ref. No.	Part No.	Description
D302	8-719-991-33	DIODE 1SS133T-77
D350	8-719-991-33	DIODE 1SS133T-77
D351	8-719-991-33	DIODE 1SS133T-77
D352	8-719-991-33	DIODE 1SS133T-77
D353	8-719-991-33	DIODE 1SS133T-77
D354	8-719-991-33	DIODE 1SS133T-77
D355	8-719-109-97	DIODE RD6.8ES-B2
D356	8-719-109-89	DIODE RD5.6ESB2
D357	8-719-110-09	DIODE RD8.2ES-B3
D358	8-719-991-33	DIODE 1SS133T-77
D501	8-719-991-33	DIODE 1SS133T-77
D502	8-719-991-33	DIODE 1SS133T-77
D503	8-719-991-33	DIODE 1SS133T-77
D504	8-719-991-33	DIODE 1SS133T-77
D505	8-719-991-33	DIODE 1SS133T-77
D506	8-719-991-33	DIODE 1SS133T-77
D507	8-719-991-33	DIODE 1SS133T-77
D508	8-719-991-33	DIODE 1SS133T-77

< FERRITE BEAD >

Ref. No.	Part No.	Description
FB702	1-412-911-21	FERRITE BEAD INDUCTOR 1.1uH
FB704	1-412-911-21	FERRITE BEAD INDUCTOR 1.1uH
FB705	1-412-911-21	FERRITE BEAD INDUCTOR 1.1uH
FB706	1-412-911-21	FERRITE BEAD INDUCTOR 1.1uH

< IC >

Ref. No.	Part No.	Description
IC301	8-759-264-71	IC TA2068N
IC302	8-759-432-41	IC BH3854AS
IC305	8-759-426-51	IC BA5417
IC306	8-759-426-51	IC BA5417
IC501	8-752-901-33	IC CXP83120A-035Q
IC502	8-759-511-42	IC S-80730AN
IC503	8-759-479-70	IC S-81250SGY-B
IC703	8-752-384-13	IC CXD2589Q

MAIN

Ref. No.	Part No.	Description				Remark
		< CABLE HOLDER >				
* KH308	1-573-287-11	HOLDER, CABLE 2P				
		< COIL >				
L501	1-412-832-11	INDUCTOR	1uH			
L502	1-412-832-11	INDUCTOR	1uH			
L503	1-410-509-11	INDUCTOR	10uH			
		< LIQUID CRYSTAL DISPLAY >				
LCD501	1-803-275-11	DISPLAY PANEL, LIQUID CRYSTAL				
		< TRANSISTOR >				
Q301	8-729-281-53	TRANSISTOR	2SC1815-GR			
Q302	8-729-036-77	TRANSISTOR	KRC107M			
Q303	8-729-036-77	TRANSISTOR	KRC107M			
Q304	8-729-036-77	TRANSISTOR	KRC107M			
Q341	8-729-036-77	TRANSISTOR	KRC107M			
Q342	8-729-036-80	TRANSISTOR	KRC110M			
Q351	8-729-037-13	TRANSISTOR	KTA1271Y			
Q352	8-729-036-57	TRANSISTOR	KRC101M-AT			
Q353	8-729-021-82	TRANSISTOR	2SD2396K			
Q354	8-729-036-86	TRANSISTOR	KTC3203Y-AT			
Q355	8-729-209-15	TRANSISTOR	2SD2012			
Q356	8-729-037-34	TRANSISTOR	KRA107M			
Q357	8-729-036-57	TRANSISTOR	KRC101M-AT			
Q358	8-729-036-57	TRANSISTOR	KRC101M-AT			
Q359	8-729-037-34	TRANSISTOR	KRA107M			
Q360	8-729-037-13	TRANSISTOR	KTA1271Y			
Q368	8-729-037-13	TRANSISTOR	KTA1271Y			
Q369	8-729-036-77	TRANSISTOR	KRC107M			
Q501	8-729-036-77	TRANSISTOR	KRC107M			
Q502	8-729-036-77	TRANSISTOR	KRC107M			
Q503	8-729-036-77	TRANSISTOR	KRC107M			
Q504	8-729-036-77	TRANSISTOR	KRC107M			
Q505	8-729-036-80	TRANSISTOR	KRC110M			
Q506	8-729-037-34	TRANSISTOR	KRA107M			
Q507	8-729-922-66	TRANSISTOR	2SC2410SN			
Q508	8-729-922-66	TRANSISTOR	2SC2410SN			
Q509	8-729-037-34	TRANSISTOR	KRA107M (S47L)			
		< RESISTOR >				
R101	1-249-431-11	CARBON	15K	5%	1/4W	
R102	1-249-404-00	CARBON	82	5%	1/4W	
R103	1-249-441-11	CARBON	100K	5%	1/4W	
R104	1-247-843-11	CARBON	3.3K	5%	1/4W	
R105	1-249-425-11	CARBON	4.7K	5%	1/4W	
R106	1-247-863-00	CARBON	22K	5%	1/4W	
R107	1-249-420-11	CARBON	1.8K	5%	1/4W	
R110	1-247-807-11	CARBON	100	5%	1/4W	
R140	1-249-417-11	CARBON	1K	5%	1/4W	
R141	1-249-426-11	CARBON	5.6K	5%	1/4W	

Ref. No.	Part No.	Description			Remark
R150	1-249-425-11	CARBON	4.7K	5%	1/4W
R151	1-249-415-11	CARBON	680	5%	1/4W
R152	1-249-411-11	CARBON	330	5%	1/4W
R153	1-249-432-11	CARBON	18K	5%	1/4W
R154	1-249-414-11	CARBON	560	5%	1/4W
⚠R155	1-249-387-11	CARBON	3.3	5%	1/4W F
⚠R156	1-249-387-11	CARBON	3.3	5%	1/4W F
R159	1-249-418-11	CARBON	1.2K	5%	1/4W
R160	1-249-411-11	CARBON	330	5%	1/4W
R201	1-249-431-11	CARBON	15K	5%	1/4W
R202	1-249-404-00	CARBON	82	5%	1/4W
R203	1-249-441-11	CARBON	100K	5%	1/4W
R204	1-247-843-11	CARBON	3.3K	5%	1/4W
R205	1-249-425-11	CARBON	4.7K	5%	1/4W
R206	1-247-863-00	CARBON	22K	5%	1/4W
R207	1-249-420-11	CARBON	1.8K	5%	1/4W
R210	1-247-807-11	CARBON	100	5%	1/4W
R240	1-249-417-11	CARBON	1K	5%	1/4W
R241	1-249-426-11	CARBON	5.6K	5%	1/4W
R250	1-249-425-11	CARBON	4.7K	5%	1/4W
R251	1-249-415-11	CARBON	680	5%	1/4W
R252	1-249-411-11	CARBON	330	5%	1/4W
R253	1-249-432-11	CARBON	18K	5%	1/4W
R254	1-249-414-11	CARBON	560	5%	1/4W
⚠R255	1-249-387-11	CARBON	3.3	5%	1/4W F
⚠R256	1-249-387-11	CARBON	3.3	5%	1/4W F
R259	1-249-418-11	CARBON	1.2K	5%	1/4W
R260	1-249-411-11	CARBON	330	5%	1/4W
R301	1-247-903-00	CARBON	1M	5%	1/4W
R302	1-249-429-11	CARBON	10K	5%	1/4W
R303	1-249-406-11	CARBON	120	5%	1/4W
R304	1-249-435-11	CARBON	33K	5%	1/4W
R305	1-249-389-11	CARBON	4.7	5%	1/4W
R307	1-249-429-11	CARBON	10K	5%	1/4W
R311	1-249-429-11	CARBON	10K	5%	1/4W
R312	1-249-429-11	CARBON	10K	5%	1/4W
R313	1-247-807-11	CARBON	100	5%	1/4W
R340	1-249-401-11	CARBON	47	5%	1/4W
R342	1-249-417-11	CARBON	1K	5%	1/4W
R343	1-249-417-11	CARBON	1K	5%	1/4W
R344	1-249-417-11	CARBON	1K	5%	1/4W
R345	1-247-863-00	CARBON	22K	5%	1/4W
R349	1-247-815-00	CARBON	220	5%	1/4W
R350	1-247-807-11	CARBON	100	5%	1/4W
R351	1-249-437-11	CARBON	47K	5%	1/4W
R352	1-249-417-11	CARBON	1K	5%	1/4W
R353	1-247-815-00	CARBON	220	5%	1/4W
R354	1-247-807-11	CARBON	100	5%	1/4W
R355	1-247-807-11	CARBON	100	5%	1/4W
R356	1-247-815-00	CARBON	220	5%	1/4W
R357	1-247-807-11	CARBON	100	5%	1/4W
R358	1-247-807-11	CARBON	100	5%	1/4W
R359	1-249-413-11	CARBON	470	5%	1/4W

The components identified by mark ⚠ or dotted line with mark. ⚠ are cr itical for saf ety. Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
R360	1-249-441-11	CARBON	100K	5%	1/4W
R361	1-249-421-11	CARBON	2.2K	5%	1/4W
R362	1-249-441-11	CARBON	100K	5%	1/4W
R363	1-249-417-11	CARBON	1K	5%	1/4W
R501	1-249-417-11	CARBON	1K	5%	1/4W
R502	1-249-429-11	CARBON	10K	5%	1/4W
R503	1-249-417-11	CARBON	1K	5%	1/4W
R504	1-249-417-11	CARBON	1K	5%	1/4W
R505	1-249-417-11	CARBON	1K	5%	1/4W
R506	1-249-417-11	CARBON	1K	5%	1/4W
R507	1-249-417-11	CARBON	1K	5%	1/4W
R508	1-249-417-11	CARBON	1K	5%	1/4W
R509	1-249-417-11	CARBON	1K	5%	1/4W
R510	1-249-417-11	CARBON	1K	5%	1/4W
R511	1-249-417-11	CARBON	1K	5%	1/4W
R512	1-249-417-11	CARBON	1K	5%	1/4W
R513	1-249-417-11	CARBON	1K	5%	1/4W
R514	1-249-417-11	CARBON	1K	5%	1/4W
R515	1-249-417-11	CARBON	1K	5%	1/4W
R516	1-249-429-11	CARBON	10K	5%	1/4W
R517	1-249-417-11	CARBON	1K	5%	1/4W
R518	1-249-417-11	CARBON	1K	5%	1/4W
R519	1-249-417-11	CARBON	1K	5%	1/4W
R520	1-249-417-11	CARBON	1K	5%	1/4W
R521	1-249-417-11	CARBON	1K	5%	1/4W
R522	1-249-417-11	CARBON	1K	5%	1/4W
R523	1-249-417-11	CARBON	1K	5%	1/4W
R524	1-249-417-11	CARBON	1K	5%	1/4W
R525	1-249-429-11	CARBON	10K	5%	1/4W
R526	1-249-429-11	CARBON	10K	5%	1/4W
R527	1-249-429-11	CARBON	10K	5%	1/4W
R528	1-249-437-11	CARBON	47K	5%	1/4W
R529	1-249-417-11	CARBON	1K	5%	1/4W
R530	1-249-417-11	CARBON	1K	5%	1/4W
R531	1-249-417-11	CARBON	1K	5%	1/4W
R532	1-249-417-11	CARBON	1K	5%	1/4W
R533	1-249-417-11	CARBON	1K	5%	1/4W
R534	1-249-417-11	CARBON	1K	5%	1/4W
R535	1-249-417-11	CARBON	1K	5%	1/4W
R536	1-249-417-11	CARBON	1K	5%	1/4W
R537	1-247-885-00	CARBON	180K	5%	1/4W
R538	1-249-441-11	CARBON	100K	5%	1/4W
R539	1-249-441-11	CARBON	100K	5%	1/4W
R540	1-249-441-11	CARBON	100K	5%	1/4W
R541	1-249-421-11	CARBON	2.2K	5%	1/4W
R542	1-249-421-11	CARBON	2.2K	5%	1/4W
R543	1-249-421-11	CARBON	2.2K	5%	1/4W
R544	1-249-421-11	CARBON	2.2K	5%	1/4W
R545	1-249-417-11	CARBON	1K	5%	1/4W
R546	1-249-417-11	CARBON	1K	5%	1/4W
R547	1-249-417-11	CARBON	1K	5%	1/4W
R548	1-249-417-11	CARBON	1K	5%	1/4W
R549	1-249-417-11	CARBON	1K	5%	1/4W
R550	1-249-417-11	CARBON	1K	5%	1/4W
R551	1-249-417-11	CARBON	1K	5%	1/4W
R552	1-249-417-11	CARBON	1K	5%	1/4W
R553	1-249-417-11	CARBON	1K	5%	1/4W
R554	1-249-417-11	CARBON	1K	5%	1/4W
R555	1-249-417-11	CARBON	1K	5%	1/4W
R556	1-249-417-11	CARBON	1K	5%	1/4W
R557	1-249-417-11	CARBON	1K	5%	1/4W
R558	1-249-417-11	CARBON	1K	5%	1/4W
R559	1-249-417-11	CARBON	1K	5%	1/4W
R560	1-249-417-11	CARBON	1K	5%	1/4W
R561	1-249-417-11	CARBON	1K	5%	1/4W
R562	1-249-417-11	CARBON	1K	5%	1/4W
R563	1-249-417-11	CARBON	1K	5%	1/4W
R564	1-249-417-11	CARBON	1K	5%	1/4W
R565	1-249-417-11	CARBON	1K	5%	1/4W
R566	1-249-417-11	CARBON	1K	5%	1/4W
R567	1-249-417-11	CARBON	1K	5%	1/4W
R568	1-249-429-11	CARBON	10K	5%	1/4W
R569	1-249-429-11	CARBON	10K	5%	1/4W
R570	1-249-429-11	CARBON	10K	5%	1/4W
R571	1-249-429-11	CARBON	10K	5%	1/4W
R572	1-249-429-11	CARBON	10K	5%	1/4W
R573	1-249-429-11	CARBON	10K	5%	1/4W
R574	1-249-429-11	CARBON	10K	5%	1/4W
R575	1-249-429-11	CARBON	10K	5%	1/4W
R576	1-249-429-11	CARBON	10K	5%	1/4W
R577	1-249-429-11	CARBON	10K	5%	1/4W
⚠R578	1-249-387-11	CARBON	3.3	5%	1/4W F
R579	1-249-437-11	CARBON	47K	5%	1/4W
R580	1-247-895-00	CARBON	470K	5%	1/4W
R581	1-249-441-11	CARBON	100K	5%	1/4W (S45L)
R583	1-249-427-11	CARBON	6.8K	5%	1/4W
R584	1-249-425-11	CARBON	4.7K	5%	1/4W
R586	1-249-417-11	CARBON	1K	5%	1/4W
R587	1-249-429-11	CARBON	10K	5%	1/4W
R588	1-249-417-11	CARBON	1K	5%	1/4W
R589	1-249-437-11	CARBON	47K	5%	1/4W
R590	1-249-425-11	CARBON	4.7K	5%	1/4W
R591	1-249-425-11	CARBON	4.7K	5%	1/4W
R592	1-249-425-11	CARBON	4.7K	5%	1/4W
R593	1-249-425-11	CARBON	4.7K	5%	1/4W
R594	1-247-863-00	CARBON	22K	5%	1/4W
R595	1-249-435-11	CARBON	33K	5%	1/4W
R596	1-249-425-11	CARBON	4.7K	5%	1/4W
R598	1-249-437-11	CARBON	47K	5%	1/4W
R600	1-247-863-00	CARBON	22K	5%	1/4W
R629	1-249-429-11	CARBON	10K	5%	1/4W
R630	1-249-429-11	CARBON	10K	5%	1/4W
R631	1-249-413-11	CARBON	470	5%	1/4W
R713	1-249-429-11	CARBON	10K	5%	1/4W
R730	1-249-435-11	CARBON	33K	5%	1/4W

The components identified by mark ⚠or dotted line with mark. ⚠are cr itical for saf ety. Replace only with part number specified.

MAIN | POWER | RECORD/PLAYBACK SWITCH

Ref. No.	Part No.	Description			Remark
R732	1-249-429-11	CARBON	10K	5%	1/4W
R748	1-249-417-11	CARBON	1K	5%	1/4W
R749	1-249-417-11	CARBON	1K	5%	1/4W
R750	1-249-437-11	CARBON	47K	5%	1/4W
R751	1-249-417-11	CARBON	1K	5%	1/4W
R752	1-249-417-11	CARBON	1K	5%	1/4W
R753	1-249-417-11	CARBON	1K	5%	1/4W
R754	1-249-417-11	CARBON	1K	5%	1/4W
R755	1-249-417-11	CARBON	1K	5%	1/4W
R756	1-249-417-11	CARBON	1K	5%	1/4W
R757	1-249-417-11	CARBON	1K	5%	1/4W
R758	1-249-417-11	CARBON	1K	5%	1/4W
R759	1-249-417-11	CARBON	1K	5%	1/4W
R764	1-249-417-11	CARBON	1K	5%	1/4W
R765	1-249-417-11	CARBON	1K	5%	1/4W
R770	1-249-437-11	CARBON	47K	5%	1/4W
R771	1-247-843-11	CARBON	3.3K	5%	1/4W
R772	1-249-417-11	CARBON	1K	5%	1/4W
R773	1-249-429-11	CARBON	10K	5%	1/4W
R774	1-247-903-00	CARBON	1M	5%	1/4W
R775	1-249-429-11	CARBON	10K	5%	1/4W
R776	1-247-887-00	CARBON	220K	5%	1/4W
R780	1-249-430-11	CARBON	12K	5%	1/4W
R781	1-249-430-11	CARBON	12K	5%	1/4W
R782	1-249-430-11	CARBON	12K	5%	1/4W
R783	1-249-417-11	CARBON	1K	5%	1/4W
R790	1-249-430-11	CARBON	12K	5%	1/4W
R791	1-249-430-11	CARBON	12K	5%	1/4W
R792	1-249-430-11	CARBON	12K	5%	1/4W
R793	1-249-417-11	CARBON	1K	5%	1/4W
		< TRANSFORMER >			
T301	1-433-268-00	TRANSFORMER, BIAS OSCILLATOR			
		< VIBRATOR >			
X501	1-767-184-11	VIBRATOR, CERAMIC (4.19MHz)			
X502	1-767-697-11	VIBRATOR, CRYSTAL (32.768kHz)			
X701	1-577-253-11	VIBRATOR, CERAMIC (16.9344MHz)			
**********					
*	1-671-049-11	POWER BOARD			
		**********			
	1-533-233-31	HOLDER, FUSE			
		< CAPACITOR >			
C901	1-101-005-00	CERAMIC	22000PF		50V
C902	1-101-005-00	CERAMIC	22000PF		50V
C903	1-101-005-00	CERAMIC	22000PF		50V
C904	1-101-005-00	CERAMIC	22000PF		50V
C906	1-162-294-31	CERAMIC	0.001uF	10%	50V
C907	1-124-907-11	ELECT	10uF	20%	50V
C908	1-126-768-11	ELECT	2200uF	20%	16V
C909	1-162-306-11	CERAMIC	0.01uF	20%	16V

Ref. No.	Part No.	Description			Remark
		< AC INLET >			
⚠CNJ901	1-526-838-11	INLET, AC 2P (~ AC IN)			
		< DIODE >			
D901	8-719-031-53	DIODE LT2A02			
D902	8-719-031-53	DIODE LT2A02			
D903	8-719-031-53	DIODE LT2A02			
D904	8-719-031-53	DIODE LT2A02			
D905	8-719-991-33	DIODE 1SS133T-77			
D906	8-719-991-33	DIODE 1SS133T-77			
D907	8-719-991-33	DIODE 1SS133T-77			
D908	8-719-991-33	DIODE 1SS133T-77			
D909	8-719-991-33	DIODE 1SS133T-77			
		< FUSE >			
⚠F902	1-532-465-51	FUSE, TIME-LAG (T3.15A/250V)			
		< IC >			
IC901	8-759-479-70	IC S-81250SGY-B			
		< CABLE HOLDER >			
* KH901	1-565-384-11	HOLDER, CABLE 3P			
* KH902	1-565-385-11	HOLDER, CABLE 4P			
		< LINE FILTER >			
⚠LF901	1-402-663-11	TRANSFORMER, LINE FILTER (LFT)			
		< RESISTOR >			
R900	1-247-807-11	CARBON	100	5%	1/4W
R901	1-247-807-11	CARBON	100	5%	1/4W
R903	1-247-899-11	CARBON	680K	5%	1/4W
R904	1-247-887-00	CARBON	220K	5%	1/4W
		< TRANSFORMER >			
⚠T901	1-433-422-11	TRANSFORMER, POWER			
**********					
*	1-671-043-11	RECORD/PLAYBACK SWITCH BOARD			
		**********			
		< CABLE HOLDER >			
* KH305	1-565-385-21	HOLDER, CABLE 4P			
		< SWITCH >			
S301	1-762-565-11	SWITCH, SLIDE (REC/PB)			
**********					

The components identified by mark ⚠or dotted line with mark. ⚠are cr itical for saf ety. Replace only with part number specified.

Ref. No.	Part No.	Description			Remark
*	1-671-052-11	SW (L) BOARD **********			
		< CAPACITOR >			
C601	1-162-282-31	CERAMIC	100PF	10%	50V (S47L)
C603	1-161-494-00	CERAMIC	0.022uF		25V (S47L)
		< CONNECTOR >			
CNP601	1-784-230-11	PLUG, CONNECTOR (PC BOARD) 10P			
		< DIODE >			
D605	8-719-038-29	LED SLP-181B-51 (OPR/BATT)			
		< IC >			
IC601	8-759-459-85	IC NJL63H400A (S47L)			
		< CABLE HOLDER >			
* KH601	1-573-287-11	HOLDER, CABLE 2P			
		< RESISTOR >			
R601	1-249-415-11	CARBON	680	5%	1/4W
R626	1-249-415-11	CARBON	680	5%	1/4W
R627	1-247-815-00	CARBON	220	5%	1/4W
		< SWITCH >			
S601	1-762-798-11	SWITCH, KEY BOARD (OPERATE)			
S602	1-762-798-11	SWITCH, KEY BOARD (SLEEP)			
S616	1-762-798-11	SWITCH, KEY BOARD (STANDBY)			
**********					
*	1-671-051-11	SW (R) BOARD **********			
		< CABLE HOLDER >			
* KH602	1-573-287-11	HOLDER, CABLE 2P			
		< RESISTOR >			
R620	1-249-415-11	CARBON	680	5%	1/4W
R621	1-249-416-11	CARBON	820	5%	1/4W
R622	1-249-418-11	CARBON	1.2K	5%	1/4W
		< SWITCH >			
S623	1-762-798-11	SWITCH, KEY BOARD (⏏ CD OPEN/CLOSE)			
S624	1-762-798-11	SWITCH, KEY BOARD (TIMER)			
S625	1-762-798-11	SWITCH, KEY BOARD (CLOCK)			
S626	1-762-798-11	SWITCH, KEY BOARD (DISPLAY ENTER MEM)			
**********					

Ref. No.	Part No.	Description			Remark
*	1-671-050-11	SW (TOP) BOARD **********			
	3-028-125-01	HOLDER (LED)			
		< DIODE >			
D601	8-719-038-29	LED SLP-181B-51 (PRESET SOUND MODE ROCK)			
D602	8-719-038-29	LED SLP-181B-51 (PRESET SOUND MODE POP)			
D603	8-719-038-29	LED SLP-181B-51 (PRESET SOUND MODE LIVE)			
D604	8-719-038-29	LED SLP-181B-51 (PRESET SOUND MODE VOCAL)			
		< RESISTOR >			
R602	1-249-416-11	CARBON	820	5%	1/4W
R603	1-249-418-11	CARBON	1.2K	5%	1/4W
R604	1-249-420-11	CARBON	1.8K	5%	1/4W
R605	1-247-843-11	CARBON	3.3K	5%	1/4W
R606	1-249-427-11	CARBON	6.8K	5%	1/4W
R607	1-249-432-11	CARBON	18K	5%	1/4W
R608	1-249-415-11	CARBON	680	5%	1/4W
R609	1-249-416-11	CARBON	820	5%	1/4W
R610	1-249-418-11	CARBON	1.2K	5%	1/4W
R611	1-249-420-11	CARBON	1.8K	5%	1/4W
R612	1-247-843-11	CARBON	3.3K	5%	1/4W
R613	1-249-427-11	CARBON	6.8K	5%	1/4W
R614	1-249-415-11	CARBON	680	5%	1/4W
R615	1-249-416-11	CARBON	820	5%	1/4W
R616	1-249-418-11	CARBON	1.2K	5%	1/4W
R617	1-249-420-11	CARBON	1.8K	5%	1/4W
R618	1-247-843-11	CARBON	3.3K	5%	1/4W
R619	1-249-427-11	CARBON	6.8K	5%	1/4W
R625	1-249-417-11	CARBON	1K	5%	1/4W
		< SWITCH >			
S603	1-762-798-11	SWITCH, KEY BOARD (MONO/ST ISS PLAY MODE)			
S604	1-762-798-11	SWITCH, KEY BOARD (PRESET SOUND MODE OFF)			
S605	1-762-798-11	SWITCH, KEY BOARD (PRESET SOUND MODE ROCK)			
S606	1-762-798-11	SWITCH, KEY BOARD (PRESET SOUND MODE POP)			
S607	1-762-798-11	SWITCH, KEY BOARD (PRESET SOUND MODE LIVE)			
S608	1-762-798-11	SWITCH, KEY BOARD (PRESET SOUND MODE VOCAL)			
S609	1-762-798-11	SWITCH, KEY BOARD (▶II)			
S610	1-762-798-11	SWITCH, KEY BOARD (■)			
S611	1-762-798-11	SWITCH, KEY BOARD (▶▶I /TUNE +)			
S612	1-762-798-11	SWITCH, KEY BOARD (I◀◀ /TUNE -)			
S613	1-762-798-11	SWITCH, KEY BOARD (MEGA BASS)			
S614	1-762-798-11	SWITCH, KEY BOARD (VOL +)			

SW (TOP) TUNER

Ref. No.	Part No.	Description	Remark
S615	1-762-798-11	SWITCH, KEY BOARD (VOL -)	
S617	1-762-798-11	SWITCH, KEY BOARD (BAND)	
S618	1-762-798-11	SWITCH, KEY BOARD (PRESET +)	
S619	1-762-798-11	SWITCH, KEY BOARD (PRESET -)	
S620	1-762-798-11	SWITCH, KEY BOARD (FUNCTION)	
S621	1-762-798-11	SWITCH, KEY BOARD (LOOP)	
S622	1-762-798-11	SWITCH, KEY BOARD (FLASH)	

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*	A-3321-500-A	TUNER BOARD, COMPLETE	
		**********	
		< CAPACITOR >	
C2	1-162-306-11	CERAMIC 0.01uF 20%	16V
C10	1-126-963-11	ELECT 4.7uF 20%	50V
C11	1-162-306-11	CERAMIC 0.01uF 20%	16V
C13	1-162-306-11	CERAMIC 0.01uF 20%	16V
C14	1-161-053-00	CERAMIC 0.015uF 10%	50V
C15	1-161-053-00	CERAMIC 0.015uF 10%	50V
C16	1-124-903-11	ELECT 1uF 20%	50V
C17	1-124-903-11	ELECT 1uF 20%	50V
C18	1-124-443-00	ELECT 100uF 20%	10V
C19	1-162-850-11	CERAMIC 0.082uF 10%	16V
C20	1-162-849-11	CERAMIC 0.068uF 10%	16V
C21	1-162-850-11	CERAMIC 0.082uF 10%	16V
C22	1-124-903-11	ELECT 1uF 20%	50V
C23	1-162-288-31	CERAMIC 330PF 10%	50V
C24	1-162-306-11	CERAMIC 0.01uF 20%	16V
C25	1-162-306-11	CERAMIC 0.01uF 20%	16V
C26	1-161-494-00	CERAMIC 0.022uF	25V
C27	1-161-494-00	CERAMIC 0.022uF	25V
C28	1-162-306-11	CERAMIC 0.01uF 20%	16V
C30	1-162-203-31	CERAMIC 15PF 5%	50V
C31	1-162-198-31	CERAMIC 8.2PF 10%	50V
C32	1-162-294-31	CERAMIC 0.001uF 10%	50V
C33	1-162-306-11	CERAMIC 0.01uF 20%	16V
C40	1-162-203-31	CERAMIC 15PF 5%	50V
C41	1-164-159-21	CERAMIC 0.1uF	50V
C42	1-102-822-00	CERAMIC 390PF 5%	50V
C43	1-162-851-11	CERAMIC 0.1uF 10%	16V
C44	1-164-159-21	CERAMIC 0.1uF	50V
C45	1-164-159-21	CERAMIC 0.1uF	50V
C50	1-107-734-11	FILM 360PF 5%	100V
C51	1-162-306-11	CERAMIC 0.01uF 20%	16V
C52	1-162-280-31	CERAMIC 82PF 10%	50V
C53	1-162-306-11	CERAMIC 0.01uF 20%	16V
C54	1-164-159-21	CERAMIC 0.1uF	50V
C60	1-102-518-11	CERAMIC 33PF 5%	50V
C61	1-162-203-31	CERAMIC 15PF 5%	50V
C62	1-162-294-31	CERAMIC 0.001uF 10%	50V
C64	1-162-306-11	CERAMIC 0.01uF 20%	16V
C65	1-162-306-11	CERAMIC 0.01uF 20%	16V
C66	1-162-306-11	CERAMIC 0.01uF 20%	16V
C67	1-162-306-11	CERAMIC 0.01uF 20%	16V
C68	1-162-294-31	CERAMIC 0.001uF 10%	50V
C69	1-162-294-31	CERAMIC 0.001uF 10%	50V
C70	1-162-294-31	CERAMIC 0.001uF 10%	50V
C71	1-162-306-11	CERAMIC 0.01uF 20%	16V
C72	1-124-907-11	ELECT 10uF 20%	50V
C73	1-162-306-11	CERAMIC 0.01uF 20%	16V
C74	1-124-907-11	ELECT 10uF 20%	50V
C75	1-136-177-00	FILM 1uF 5%	50V
C76	1-162-306-11	CERAMIC 0.01uF 20%	16V
C77	1-130-483-00	MYLAR 0.01uF 5%	50V
C81	1-126-963-11	ELECT 4.7uF 20%	50V
C90	1-162-282-31	CERAMIC 100PF 10%	50V
C91	1-162-294-31	CERAMIC 0.001uF 10%	50V
C92	1-162-294-31	CERAMIC 0.001uF 10%	50V
C93	1-162-282-31	CERAMIC 100PF 10%	50V
C94	1-162-306-11	CERAMIC 0.01uF 20%	16V
		< FILTER >	
CF1	1-760-467-11	FILTER, CERAMIC	
CF2	1-760-467-11	FILTER, CERAMIC	
CF3	1-760-467-11	FILTER, CERAMIC	
CF4	1-579-762-11	VIBRATOR, CERAMIC	
		< ENCAPSULATED COMPONENT >	
CFT1	1-239-173-11	ENCAPSULATED COMPONENT	
		< FUSE HOLDER >	
CN4	1-533-233-31	HOLDER, FUSE	
		< CONNECTOR >	
* CNP1	1-774-959-11	PIN, CONNECTOR (PC BOARD) 13P	
		< TRIMMER >	
CT1	1-141-601-11	CAP, ADJ 10PF	
CT3	1-141-603-11	CAP, ADJ 20PF	
CT5	1-141-605-11	CAP, ADJ 40PF	
		< DIODE >	
D1	8-719-918-45	DIODE KV1310	
D2	8-719-918-45	DIODE KV1310	
D3	8-719-050-69	DIODE KV1520N	
D10	8-719-991-33	DIODE 1SS133T-77	
D11	8-719-991-33	DIODE 1SS133T-77	
		< BAND PASS FILTER >	
FL1	1-236-711-21	FILTER, BAND PASS	
		< IC >	
IC1	8-759-386-02	IC TA2008AN	
IC2	8-759-290-61	IC BU2615S	

Ref. No.	Part No.	Description			Remark
		< COIL >			
L1	1-406-994-41	COIL, FM RF			
L2	1-409-905-31	COIL, FM RF			
L3	1-501-924-11	ANTENNA, FERRITE-ROD (MW/LW)			
L4	1-411-199-11	COIL, MW/LW OSC			
L40	1-410-517-11	INDUCTOR 47uH			
		< TRANSISTOR >			
Q1	8-729-922-66	TRANSISTOR 2SC2410SN			
Q10	8-729-036-77	TRANSISTOR KRC107M			
Q11	8-729-036-77	TRANSISTOR KRC107M			
Q12	8-729-036-77	TRANSISTOR KRC107M			
Q13	8-729-036-77	TRANSISTOR KRC107M			
Q40	8-729-037-34	TRANSISTOR KRA107M			
Q41	8-729-905-50	TRANSISTOR DTC343TS			
Q42	8-729-905-50	TRANSISTOR DTC343TS			
Q50	8-729-037-34	TRANSISTOR KRA107M			
Q51	8-729-922-66	TRANSISTOR 2SC2410SN			
Q52	8-729-178-62	TRANSISTOR 2SC2786-L			
Q60	8-729-012-83	FET 2SK679A			
Q61	8-729-106-07	FET 2SK514-H			
Q80	8-729-037-24	TRANSISTOR KRA111M-AT			
		< RESISTOR >			
R1	1-247-807-11	CARBON	100	5%	1/4W
R2	1-249-407-11	CARBON	150	5%	1/4W
R3	1-247-843-11	CARBON	3.3K	5%	1/4W
R4	1-249-437-11	CARBON	47K	5%	1/4W
R5	1-247-815-00	CARBON	220	5%	1/4W
R6	1-249-401-11	CARBON	47	5%	1/4W
R8	1-249-425-11	CARBON	4.7K	5%	1/4W
R10	1-247-791-00	CARBON	22	5%	1/4W
R11	1-247-863-00	CARBON	22K	5%	1/4W
R12	1-249-437-11	CARBON	47K	5%	1/4W
R13	1-249-421-11	CARBON	2.2K	5%	1/4W
R14	1-249-437-11	CARBON	47K	5%	1/4W
R30	1-249-431-11	CARBON	15K	5%	1/4W
R31	1-247-887-00	CARBON	220K	5%	1/4W
R32	1-249-441-11	CARBON	100K	5%	1/4W
R33	1-249-421-11	CARBON	2.2K	5%	1/4W
R40	1-247-887-00	CARBON	220K	5%	1/4W
R41	1-249-429-11	CARBON	10K	5%	1/4W
R42	1-249-441-11	CARBON	100K	5%	1/4W
R43	1-249-417-11	CARBON	1K	5%	1/4W
R50	1-247-887-00	CARBON	220K	5%	1/4W
R51	1-249-425-11	CARBON	4.7K	5%	1/4W
R52	1-249-425-11	CARBON	4.7K	5%	1/4W
R53	1-249-441-11	CARBON	100K	5%	1/4W
R60	1-249-417-11	CARBON	1K	5%	1/4W
R61	1-249-417-11	CARBON	1K	5%	1/4W
R62	1-249-417-11	CARBON	1K	5%	1/4W
R63	1-249-417-11	CARBON	1K	5%	1/4W
R64	1-249-437-11	CARBON	47K	5%	1/4W

Ref. No.	Part No.	Description			Remark
R65	1-249-417-11	CARBON	1K	5%	1/4W
R66	1-249-417-11	CARBON	1K	5%	1/4W
R68	1-249-417-11	CARBON	1K	5%	1/4W
R69	1-249-417-11	CARBON	1K	5%	1/4W
R70	1-247-807-11	CARBON	100	5%	1/4W
R71	1-249-412-11	CARBON	390	5%	1/4W
R72	1-249-415-11	CARBON	680	5%	1/4W
R73	1-249-421-11	CARBON	2.2K	5%	1/4W
R74	1-249-425-11	CARBON	4.7K	5%	1/4W
R75	1-249-421-11	CARBON	2.2K	5%	1/4W
R76	1-249-417-11	CARBON	1K	5%	1/4W
R80	1-249-441-11	CARBON	100K	5%	1/4W
R81	1-249-429-11	CARBON	10K	5%	1/4W
R90	1-249-411-11	CARBON	330	5%	1/4W
R91	1-249-427-11	CARBON	6.8K	5%	1/4W
		< VIBRATOR >			
X1	1-760-130-11	VIBRATOR, CRYSTAL (75kHz)			

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		MISCELLANEOUS
		**********
65	1-783-889-11	WIRE, PARALLEL (20 CORE)
103	1-452-899-21	MAGNET
109	1-783-888-11	WIRE, PARALLEL (16 CORE)
⚠251	8-848-483-05	PICK-UP, OPTICAL KSS-213C/Q-RP
255	X-2646-381-1	CHASSIS ASSY (MB) (RP), MOTOR (SPINDLE) (INCLUDING M701)
ANT1	1-501-480-11	ANTENNA, TELESCOPIC
⚠F902	1-532-465-51	FUSE, TIME-LAG (T3.15A/250V)
HE301	1-543-876-11	HEAD (ERASE)
HRP301	1-500-454-11	HEAD, MAGNETIC (RECORD/PLAYBACK)
M301	A-3320-446-A	MOTOR ASSY (CAPSTAN/REEL)
M651	A-3320-538-A	MOTOR ASSY, LOADING
M702	X-2625-769-1	GEAR ASSY (MB), MOTOR (SLED)
S301	1-762-679-11	SWITCH, LEAF (TAPE PLAY)
S302	1-771-059-11	SWITCH, LEAF (MOTOR ON/OFF)
SP301	1-529-131-11	SPEAKER (L-CH)
SP302	1-529-131-11	SPEAKER (R-CH)
⚠T901	1-433-422-11	TRANSFORMER, POWER

****

The components identified by mark ⚠or dotted line with mark. ⚠are cr itical for saf ety. Replace only with part number specified.

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
⚠	1-769-412-11	CORD, POWER	
⚠	1-770-019-11	ADAPTOR, CONVERSION PLUG 3P (UK)	
	3-027-153-01	LID, BATTERY CASE (for RMT-CS47A) (S47L)	
	3-864-534-11	MANUAL, INSTRUCTION (ENGLISH,SPANISH)	(AEP,UK)
	3-864-534-21	MANUAL, INSTRUCTION (FRENCH,GERMAN)	(AEP)
	3-864-534-31	MANUAL, INSTRUCTION (DUTCH,PORTUGUESE)	(AEP)
	3-864-534-81	MANUAL, INSTRUCTION (POLISH,CZECH, HUNGARIAN)	(CET)
	3-864-534-91	MANUAL, INSTRUCTION (SWEDISH,FINNISH)	(CET)
	A-3250-870-A	RMT-CS47A//C (SET) (S47L)	
**********			
		**********	
		HARDWARE LIST	
		**********	
#1	7-685-647-79	SCREW +BVTP 3X10 TYPE2 IT-3	
#2	7-685-649-79	SCREW +BTP 3X14 TYPE2 IT-3	
#3	7-682-548-04	SCREW +B 3X8	
#4	7-685-134-19	SCREW +P 2.6X8 TYPE2 N-S	
#5	7-685-104-21	SCREW +P 2X6 TYPE2 SLIT	
#6	7-621-772-00	SCREW +B 2X3	
#7	7-685-783-09	SCREW +PTT 2X6 (S)	
#8	7-621-770-87	SCREW +B 2.6X5	
#9	7-685-645-79	SCREW +BVTP 3X6 TYPE2 N-S	
#10	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3	

The components identified by mark ⚠ or dotted line with mark. ⚠ are critical for safety. Replace only with part number specified.

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